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Analysis of One Hundred Cases of Minimal Pulmonary Tuberculosis*

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In this paper the beginning and evolution of 100 cases of pulmonary tuberculosis of minimal extent, selected solely on the basis of their conforming to the definition, have been carefully analyzed. The definition reads: "Minimum or superficial lesions without apparent cavity, limited to a small area in one or both lungs. The total involvement, ignoring its distribution, should not exceed the equivalent in volume of the lung tissue which lies above the second chondrosternal junction and the spine of the fourth or body of the fifth thoracic vertebra on one side." Furthermore, we studied only those cases which had two years' evolution, at least.

We have considered the age and sex of the patients, the type of lesion, the presence or absence of Koch bacilli in the sputum at the start, the sedimentation test, contact with infective persons, the symptomatology, both objective and subjective, and the treatment. The cases in which we had the blood count at the beginning and during the evolution were so few that we could not take this data into consideration. We have also included some important comments.

Of our cases there were:

- 6 private patients.
- 31 from Caja de Seguro Obrero Obligatorio (insured workers).
- 63 from Servicio Medico Nacional de Empleados (insured employees).
- 42 women.
- 58 men.

Ages were grouped as follows:

- 47 of 15 - 25 years.
- 40 of 25 - 35 years.
- 13 over 35 years.

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Figures relative to age confirm the information obtained through other analyses on tuberculosis carried out in Chile, which find the highest morbidity in individuals between 20 and 30 years of age.

With regard to Koch bacilli, we have endeavored to take as a basis a complete investigation of sputum and/or gastric washings. Only in very few cases has such an initial investigation been omitted, the reasons for this being residence of patients in towns lacking properly equipped laboratories, or appearance of the lesion while public health services were not fully established. Of the one hundred cases analyzed, 14 had only direct initial investigation of Koch bacilli, and the remainder had the complete series of direct examination, culture and inoculation. Of the one hundred cases of radiologically evident lesions, we found 33 (33%) with bacilli in the sputum or gastric contents at the beginning of our clinical study. Of these, 30 evolved into a negative state and remained thus for two years, some even through five years. Disappearance of bacilli from sputum or gastric contents was secured after six months to one year; only one case remained positive for three years.

Subjective symptoms amongst the 33 initial bacilli-positive cases were present in 28 cases (84.8%), and consisted of decrease in weight, cough and expectoration, general toxic and dyspeptic manifestations, hemoptysis and dorsalgia.

In the initial bacilli-negative group (67 cases), eighteen (28.8%) evolved into a positive state. Several of these cases, when persistently controlled, had only one or a few positive results to culture or inoculation.

Amongst the 49 minimal cases which were never bacilli-positive, we find 33 cases of manifest activity during the five year control. Of these 33 cases, 23 showed tendency toward improvement or apparent cure, and 10 toward becoming worse. It is interesting to note that in the latter group search for Koch bacilli was made on numerous occasions, using the procedures of culture and inoculation. Sixteen cases remained unchanged.

Of the cases initially bacilli-negative and evolving into a positive state, one showed no change in the lesion, three had favorable evolution and fourteen unfavorable. Of the last, one underwent a severe evolution which resulted in fatal hemoptysis. Changes in bacilli coincided almost invariably with lesional increase.

Considering the evolution of the lesions in our group of 100 cases, we saw that out of 33 initially bacilli-positive cases, 10 (30.3%) underwent a lesional increase; and out of 67 initially bacilli-negative cases, 24 (35.8%) also underwent an unfavorable evolution. In view of these figures we can state that the finding of Koch

bacilli in cases of minimal pulmonary lesions has no prognostic significance.

It is pertinent to note that the figures referring to blood sedimentation can be divided into two groups, not notably different, 47 cases having normal sedimentation and 53 with varying increases (Westergren method). Let us analyze the lesional evolution in both groups:

Normal sedimentation rate: 9 cases stationary.
 13 cases of lesional increase.
 23 cases of lesional decrease.
 2 cases unstable.

i.e., 34 per cent of unfavorable cases, including the unstable ones.

Increased sedimentation rate: 9 cases stationary.
 15 cases of lesional increase.
 29 cases of lesional decrease.

i.e., 28.3 per cent of unfavorable cases. Since there is no pleurisy amongst our cases, the increased sedimentation rate is not influenced by this factor. The above figures indicate that in cases having a normal sedimentation rate at the beginning, unfavorable evolutions are more frequent than in those showing an initial increased rate.

In a study made by Dr. Yelic (Santiago, Chile) amongst patients of the Caja de Previsión de Empleados Particulares, similar results were obtained. In our opinion, the sedimentation rate does not have a high prognostic value in minimal pulmonary tuberculosis.

With regard to treatment, we should mention that active collapse methods were put into practice only in cases showing obvious unfavorable evolution, particularly those showing cavity formation. Generally, when cases showed on the roentgenogram an exudative aspect, the patients were placed in sanatoriums or put on a strict rest regimen.

Recoveries obtained by means of these three methods of treatment, which were occasionally and temporarily combined, were as follows:

40 by rest cure in the home.
19 by rest cure in the sanatorium.
14 by pneumothorax.

We considered as recoveries those cases apparently cured or in which the lesions remained unchanged from the beginning and for a minimum of two years, for which reason the lesions are considered inactive.

Cases of unfavorable evolution were divided as follows:

11 cases on home rest cure (plus one unstable case).
8 cases of sanatorium rest cure (plus one unstable case).
6 cases of pneumothorax.

In this group there were two deaths: one who was undergoing sanatorium rest cure and one under pneumothorax treatment. Undoubtedly, it is difficult to compare the results shown, due to the fact that treatments must be combined or changed as cases warrant: one case having unfavorable evolution in the home is taken to the sanatorium, or treated with pneumothorax, if necessary, thus preventing an exact appraisal of the results of each individual method of treatment.

Regarding objective symptomatology, only 11 cases showed some positive signs: i.e., the physical examination provided information in 11 per cent. In some of these cases the findings consisted exclusively of changes in resonance to percussion or in the vesicular murmur. In 7 cases we found fine rales in the affected region. This is another argument in favor of radiological investigation as the only dependable source of information in mass case-finding, when looking for early cases and patients curable in a moderate length of time.

We have also included in our study the factor of contagion amongst our patients. This information, secured through case history, had, for this particular group, a great importance, since it refers to individuals of a satisfactory cultural level and therefore reliable (civil servants, private employees and journalists). We found 37 cases of evident contact with bacilli-positive patients, and amongst them, 18 who experienced heavy infections through intimate living with parents, brothers or spouses.

We regret, indeed, being unable to refer to our patients' contacts, due to the fact that investigations are too few to justify any conclusions.

COMMENTS AND SUMMARY

a) Thirty-four per cent of progressive cases amongst one hundred cases of pulmonary tuberculosis of minimal extent leads to the belief in the necessity of an absolute preventive rest cure for such patients until definite inactivity of the lesion has been established. Otherwise, severe evolutions of such cases will postpone considerably a complete cure, and may even prevent eventual recovery.

b) An initial bacilli-negative state, established through search for bacilli in sputum and gastric contents by means of direct examination, culture and inoculation, is not enough to determine lesional inactivity in view of the fact that in our study 35.8 per cent of individuals having x-ray findings worthy of being considered minimal tuberculous lesions, and who were bacilli-negative, underwent unfavorable evolutions in relatively short periods.

c) It is possible to secure the recovery of a high percentage of

tuberculosis patients having minimal lesions by means of absolute rest in the home, without resorting to pneumothorax or sanatorium care, provided there is control to see that the rest cure is carried out as prescribed.

d) The blood sedimentation test appears to be influenced to a much less degree in cases of minimal tuberculous lesions than in primary lesions or secondary and advanced reinfection lesions.

e) Clinical examination provides information for diagnosis of tuberculosis of minimal extent in very few cases. Consequently, it cannot be relied upon for epidemiological investigations of tuberculosis, which should depend on the x-ray instead as a fundamental source of information.

COMENTARIO Y RESUMEN

a) El treinta y cuatro por ciento de casos progresivos, entre cien casos de tuberculosis pulmonar de extensión mínima, conduce a la opinión de la necesidad del reposo preventivo absoluto en estos pacientes hasta que se haya establecido la inactividad bien definida de la lesión. De otra manera, graves evoluciones en estos casos aplazarán considerablemente la curación completa, y pueden hasta impedir el restablecimiento final.

b) Un estado inicial bacilo-negativo, establecido mediante la busca de bacilos en el esputo y el contenido gástrico por medio de examen directo, cultivo e inoculación, no es suficiente para determinar la inactividad de la lesión, en vista del hecho de que en nuestro estudio el 35.8 por ciento de individuos en que se manifestaban hallazgos radiológicos merecedores de ser considerados lesiones tuberculosas mínimas, y que eran bacilo-negativos, sufrieron evoluciones adversas en períodos relativamente cortos.

c) Es posible obtener la recuperación de un alto porcentaje de pacientes tuberculosos con lesiones mínimas mediante el reposo absoluto en la casa, sin recurrir al neumotórax o al tratamiento en sanatorios, con tal de que exista control para que se lleve a cabo la cura de descanso en la forma recomendada.

d) La prueba de la sedimentación de la sangre parece ser afectada en un grado mucho menor en lesiones tuberculosas mínimas que en lesiones primarias o en lesiones de reinfección avanzadas.

e) El examen clínico sólo proporciona información para el diagnóstico de tuberculosis de extensión mínima en muy pocos casos. Por consiguiente, no es de confiar en las investigaciones epidemiológicas de la tuberculosis, las que deben estar basadas sobre la radiografía como fuente fundamental de información.

Loeffler's Syndrome (Transient Pulmonary Infiltrations with Eosinophilia) **

Report of a Case and a Review of the Available Literature

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HISTORICAL

In 1932, William Loeffler,¹ Professor of Medicine at the University of Zurich, described the syndrome that bears his name. Briefly described, the syndrome is characterized by a mild group of symptoms, a scarcity of physical signs, a blood eosinophilia varying from less than 10 per cent to more than 60 per cent, a benign course and spontaneous healing usually within a period of two to three weeks.

Since his description, there have been relatively frequent reports of cases almost all of which have shown so striking a similarity in symptomatology, physical, x-ray and blood findings, that a definite entity has been recognized to which the name *Loeffler's Syndrome* has been given. By 1936, Loeffler alone reported 51 cases, all from Switzerland. To date, case reports have appeared in the medical literature of the Scandinavian countries, France, Holland, Palestine, Canada, Spain, Germany, Italy, Britain, China, Japan, Hawaii, and from many of the South American countries. In this country, cases were reported by Soderling,² Smith and Alexander³ in 1939, Stuart,⁴ Freund and Samuelson⁵ in 1940, Baer⁶ in 1941, Hoff and Hicks⁷ and Karan and Singer⁸ in 1942, Smith⁹ in 1943, Pirkle and Davin,¹⁰ Slowey,¹¹ Peabody,¹² Ryan,²⁶ Jones and Sauders,²⁷ Hansen, Pruss and Goodman²⁸ in 1944, Miller,²⁹ and Hennel and Sussman³⁰ in 1945.

ETIOLOGY

An adequate explanation of the etiology is still lacking, probably because there is no uniform cause. Loeffler first thought that the condition might be a benign form of tuberculosis. However of the 37 cases tested with tuberculin, 13 were negative. He later considered the role played by parasites causing the condition and still later thought that the eosinophilia was an expression of an anaphylactic process.

A review of the literature to date leads one to the conclusion

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that tuberculosis can easily be dismissed as a causative factor. The parasitic theory, however, must be considered in view of the numerous case reports, mainly in children, where a blood eosinophilia and transient pulmonary infiltrations were accompanied by intestinal parasites, such as amoebiasis,⁷ trichiniasis,¹¹ and ascarides.¹³ Wild,¹⁴ who reported two cases of *ascaris lumbricoides*, thought that the larvae penetrated the intestinal wall and were carried by the portal vein or the thoracic duct to the right heart, thence to the right lung where they caused a local reaction with atelectasis and penetrated the alveoli and then were coughed or carried up and expectorated or swallowed. Case reports in the literature of Loeffler's syndrome associated with distomatose hepatic¹⁵ and *necator americanis*¹⁶ further strengthen the parasitic theory.

In addition to the parasitic theory, the allergic theory must, in the face of the accumulating evidence, receive serious consideration, since some of the cases of Loeffler's syndrome reported have been in individuals, often children, whose allergic symptoms such as vaso-motor rhinitis and especially asthma, led to the discovery of the condition.

Stefano¹⁷ reported a case of recurring asthmatic attacks in which transient areas of pulmonary infiltrations were demonstrated by x-ray and in which amoebae were found in the sputum but not in the stools. Both amoebae and asthma disappeared after treatment with emetine.

Engel¹⁸ of Shanghai should be credited with being the first to point out a definite allergic correlation. During the months of May and June, Engel noticed that for years a large proportion of the inhabitants of China were stricken by a peculiar bronchitis which in every day life is called "privet cough". Privet is the name of a species of *ligustrum* which flowers at the time mentioned. The complaint manifests itself in a cough of moderate intensity, with scanty yellow sputum having a metallic taste, and lasts only 2 days. Engel became interested in it because he suffered from it five years previous to his report. He therefore had x-rays made in the spring of two different years and on both occasions they revealed a massive pulmonary consolidation which completely cleared up after one day on one occasion and in 6 days on the second occasion. Blood showed eosinophilia from 20 to 25 per cent with an otherwise normal blood picture. At random, he chose one of his friends who complained of a similar cough and he showed the same things on x-ray, and cleared in 7 days. Engel reported two cases in 1935 and proposed the name of allergic pulmonary edema for the disease. On the basis of observations on more than 100 cases and reports in the literature, Maier¹⁹ is also convinced

that temporary pulmonary infiltrations with blood eosinophilia are of an allergic nature.

Engel also was the first to point out, after studying Loeffler's cases, the very seasonal incidence. Most of the cases have been reported during the months of July and August. A smaller group of cases have been reported during the spring months. Almost two-thirds of the reported cases were in males, mostly adults. The condition has been reported in members of the same family.

The marked seasonal incidence and the epidemic form suggest an infectious agent as the cause of the condition and it is for this reason that one has to consider an atypical virus infection as the cause of the pulmonary infiltration which in re-absorbing would elicit eosinophilia since such a virus infection as dengue may cause rather marked eosinophilia.

Over-exposure to the sun has been mentioned in the literature as a cause of the condition by Gaines²⁰ and Wieland.²¹

Wieland suggested that climatic influences should be borne in mind; he stated that indiscreet and prolonged exposure to the sun may lead to transient congestive conditions in particular areas of the lung.

In summing up the conclusions in the more recent literature on the subject, one is led to the dominating view that allergic phenomena play a decisive role in the pathogenesis of Loeffler's disease.

PATHOLOGY

Since the clinical course in Loeffler's disease is mild, and since spontaneous healing takes place, autopsy material is rarely available. Obviously an accurate description of the pathologic process is not possible. While Smith and Alexander³ reported a case in a child seven years of age with autopsy findings, an analysis of the symptoms and physical findings leaves a doubt as to whether or not the child actually died from this disease.

According to Loeffler's early reports, the pathogenesis is similar to erythema nodosum, the lung reacting with an inflammatory exudate to a toxin.

Some authors regard the lung changes as due to lung emboli, infarcts, localized bronchial asthma or atelectasis.

Engel believes that a localizing allergic edema of the lungs is responsible for the entire picture.

Von Meyenburg²² maintains that the transient infiltrations represent an eosinophilic pneumonia. Based on four accidental deaths he found that the infiltrations were of pneumonic type with exudation into the alveoli and with eosinophilic infiltration of both the alveoli and the interstitial tissue. There was an inflammatory involvement of the pleura and of the interlobar fissures.

SYMPTOMS

Loeffler's syndrome in a typical case consists of a low grade fever, some cough with expectoration, some fatigue. Occasionally a metallic taste to the sputum exists; not infrequently the condition is accompanied by a mild pain in the chest. Not uncommonly asthmatic breathing is noted. On the whole, the course in a typical case is so benign that the condition is discovered in the course of a routine examination. Twenty-five per cent of all Loeffler's cases were discovered accidentally. It is the discrepancy between the benignity of the entire course and the striking objective findings in the blood and in the roentgenogram which is responsible for the mistakes in diagnosis. A form described by Lohr and Kindberg²³ differs from Loeffler's type in that the acute symptoms are severe almost like those of a septic process and that the process is extremely protracted and persists for months. Kartagener²⁴ describes a case which he regards as representative of a third type of eosinophilic infiltration. This form is characterized by chronicity and mildness of the symptoms. Whether the three types of eosinophilic infiltrations represent three varieties of the same disease or whether they are distinct entities is difficult to decide.

COMPLICATIONS

In one case mentioned by Karan and Singer,⁵ there was increased resistance in the pulmonary circulation resulting in right ventricular strain. With the absorption of the pulmonary exudate, the heart returned to normal size. A few cases have been reported with complicating pleural effusions. Asthma associated with or preceding the initial onset of Loeffler's syndrome has been reported. In the writer's case, asthma followed the initial attack of Loeffler's syndrome.

PHYSICAL SIGNS

The physical signs are few in number. Dullness on percussion and diminution of breath sounds over the involved area can be elicited. A few migratory rales have been noted. Generally speaking, there is a paucity of physical signs when compared with the extensiveness of the fluoroscopic and x-ray shadows.

LABORATORY FINDINGS

The outstanding laboratory finding is the blood eosinophilia which ranges from 10 to over 60 per cent. One case has been reported with an eosinophilia of 85 per cent.²⁰ In some instances the eosinophilia reaches a peak when the pulmonary infiltrations had almost completely disappeared. Eosinophilia persisted in some of the cases for some time. There was no strict parallelism between

the extent of the eosinophilia and the pulmonary infiltrations. White cell counts varied from 8,000 to 15,000. Occasionally there was a leucocytosis up to 20,000. Sedimentation rate ranged from 8 to 15 mm. in one hour. In some a more rapid rate was observed. Sputum was negative for tuberculosis in all instances.

The shadows seen on x-ray have been variously described as follows:

1. Large, more or less irregularly outlined, densities which were unilateral or bilateral.
2. Small infraclavicular infiltrations of the type described by Assmann.
3. Multiple unilateral or bilateral circular densities.
4. Sharply defined densities situated in the right middle lobe.
5. Infiltrations indistinguishable from the adult type of pulmonary tuberculosis.
6. Homogenous or nodular densities.

The characteristic x-ray pictures described by Loeffler consists of consolidations which appear suddenly in various parts of the lung and disappear rapidly while others appear in another portion of the lung. The shadows are more frequently found in the lower lung fields near the diaphragm and vary in size. They disappear in approximately a week or two and usually leave only very fine fibrous star-shaped scars. In the writer's case (Figs. 1, 2, 4) the infiltrations seem peripherally placed on both sides.

DIAGNOSIS AND DIFFERENTIAL DIAGNOSIS

The diagnosis of Loeffler's syndrome can only be made, first, by the blood eosinophilia; second, by the transient x-ray shadows and third, by the clinical course. An allergic history prior to onset of symptoms is an aid in diagnosis—positive stool findings, whether amoebae or other parasites, calls for blood studies and x-ray of chest. Frequently a definite diagnosis can only be made through the medium of serial x-ray films of the lungs and after the condition has subsided.

In the differential diagnosis the following conditions must be considered: pulmonary tuberculosis, pulmonary embolism with infarction, pneumonia, bronchial asthma with partial atelectasis, erythema nodosum and anything that causes fleeting pulmonary infiltrations, such as seen in virus respiratory infections.

PROGNOSIS

The prognosis is good. There is usually spontaneous disappearance of physical signs, x-ray shadows and blood eosinophilia in a period of a week to three weeks. A few cases have been reported where the condition lasted a longer period with delayed recovery.^{5,21,22}

TREATMENT

There is no specific treatment for the condition; it heals spontaneously. Emetine Hydrochloride—1cc. intramuscularly for two days—where entamoeba was found was used by Hoff and Hicks.⁷ All symptoms disappeared after treatment with this drug, and stool was negative.

In December, 1937, Meyer²⁵ reported eight cases, including one case which had sudden rhinitis, conjunctivitis and swelling of the face accompanied by eosinophilia and transitory lung infiltrations. He used calcium therapy and removal of contact from pollen to which patient gave a strong positive reaction, after which all symptoms and signs disappeared. Obviously in treating this condition successfully a search should be made for any allergen whether it be an intestinal parasite or pollen as a direct or indirect cause of the condition, and same removed with specific treatment for the parasites and removal from pollen. Bed-rest and symptomatic treatment will heal all other types of transient pulmonary infiltrations with eosinophilia. Weingarten³¹ in India, recently des-

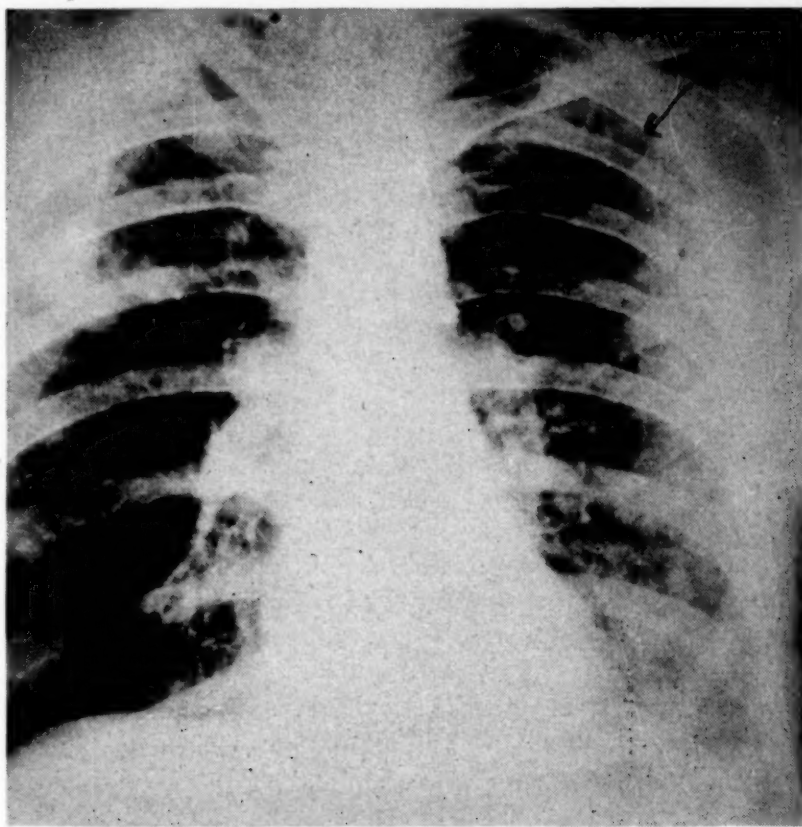


FIGURE 1

cribed what he believes to be a new clinical entity manifested by severe paroxysmal bronchitis and a high eosinophilia in which arsenicals are a specific and quickly acting remedy.

CASE HISTORY

E. O. White, male, age 44, funeral director, reported for an examination on July 25, 1942, with the following complaints: fever varying from 99 to 101.5 in the afternoon; daily morning cough with expectoration of about a tablespoon of mucopurulent odorless sputum for the past month; weakness, loss of 15 pounds in the past 6 weeks, poor appetite.

Past History:

Patient stated that for the past 2 years he had a peculiar sensation in the chest, and for the past year he has been coughing. He stated that the cough left him for a few weeks after his nasal polyps were removed early in 1941. Three months after the first operation for nasal polyps a second operation was performed and more polyps were removed. Again the cough left him for a few weeks. Three weeks after the second operation he noticed difficulty in breathing. His physician informed him that he had bronchial disease. Throughout this time he had continued

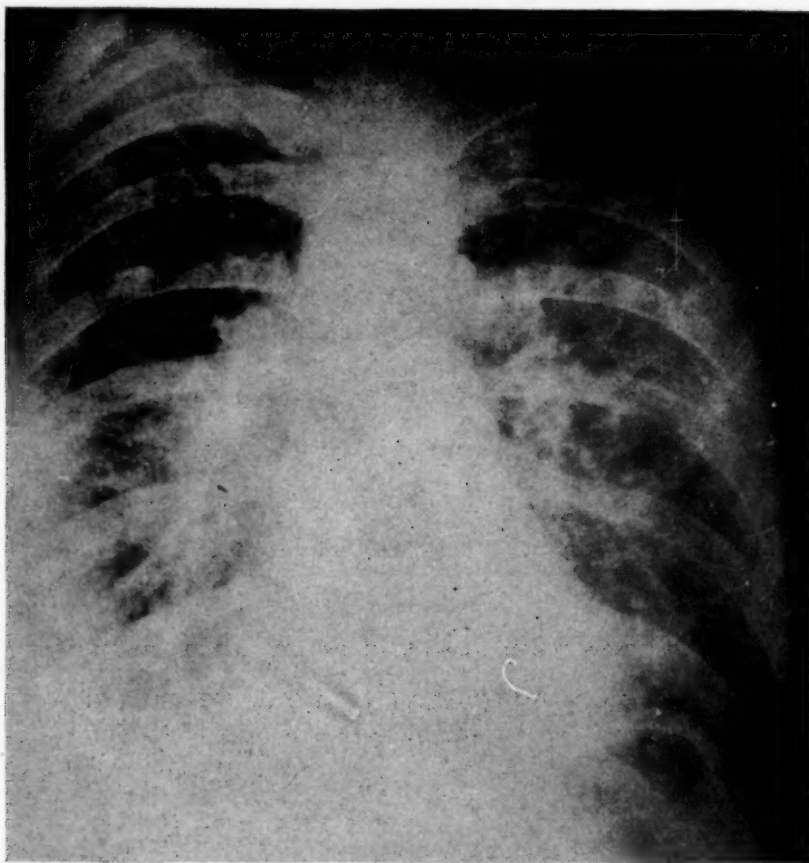


FIGURE 2

treatments for the nasal condition. Early in January, 1942, he was operated on for a third time for recurrent polyps. He was again relieved of the cough for a short while. In May, 1942, a fourth operation was performed for polyps. He felt well for about six weeks after this operation. Around the middle of June, 1942, he again started to cough and around the first of July he had a chill followed by a fever, cough, loss of weight, poor appetite, and weakness. It was because of these symptoms that a diagnosis of tuberculosis was made by his physician and he was referred to the writer for an opinion.

Family History:

Irrelevant to the case, however, it is to be noted that there was no one in the immediate family with tuberculosis or asthma.

Physical Examination:

Patient was a well-built individual but poorly nourished and sickly looking. His temperature was 101°, pulse 90, respirations 22, weight 148½, blood pressure 120/70.

Regional Examination:

Abnormal findings included the following: congestion of nasal and pharyngeal mucosa; teeth in poor condition; lips, mildly cyanotic. Expansion of the chest was limited on both sides, breathing was somewhat labored; there was dullness at the axillary region of both lungs and at upper half of right lung; medium rales were elicited on auscultation at the right base. The finger tips were slightly cyanotic.

Fluoroscopic Examination:

Revealed diminution of expansion in the upper half of right lung. Numerous calcified glands were seen in both hilar regions. The diaphragm moved freely.

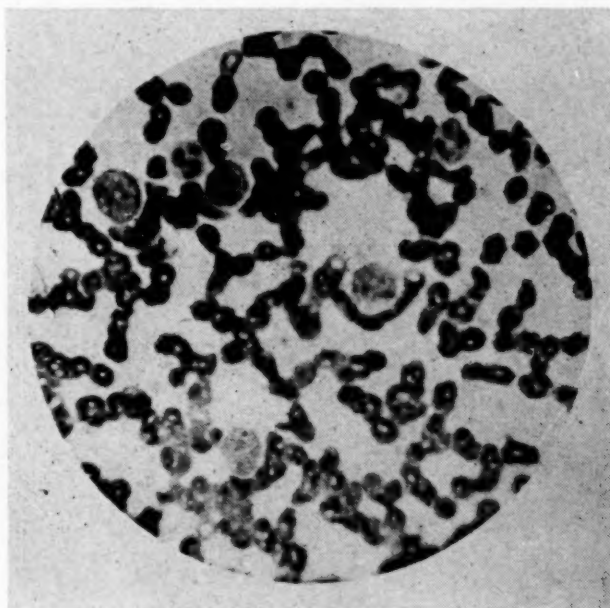


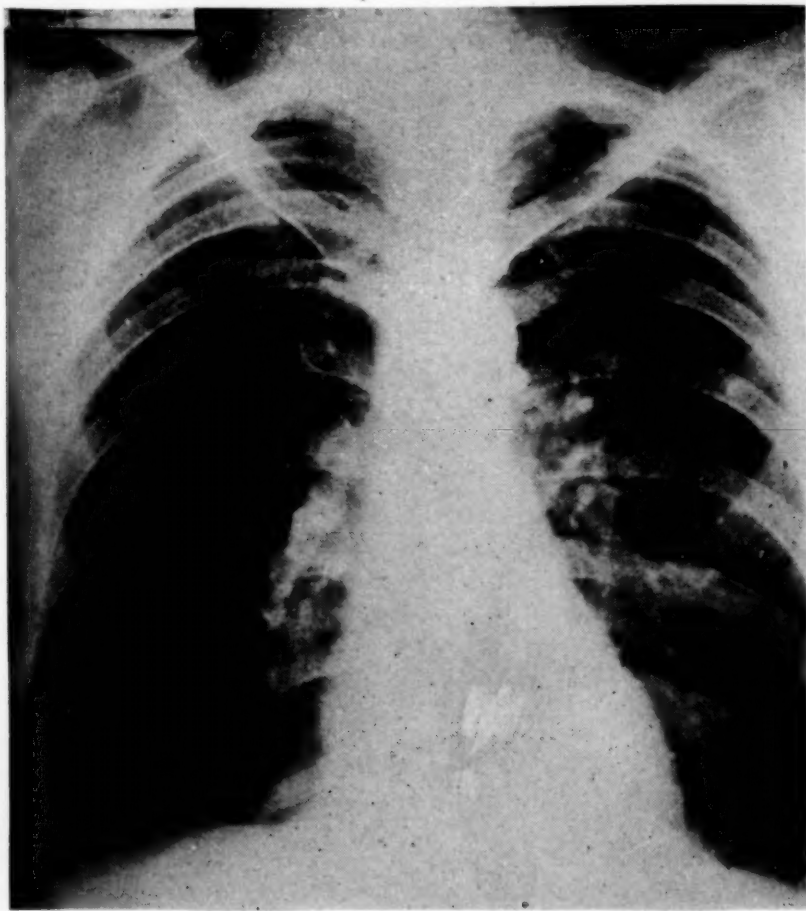
FIGURE 3

Flat Roentgenogram (Fig. 1):

Brought by patient, taken on 7/7/42, revealed an inflammatory process peripherally located, involving the first and second interspaces on the right side, and the lateral third from apex to base of left lung. Roentgenogram taken on 7/26/42 (Fig. 2), reveals clearing of the lesion in the first and second interspace on the right side but extension to the base on the same side not seen in the film of 7/7/42. Likewise, on the left side of the infiltrations previously noted in the first interspace have disappeared. There has also been some clearing of the lower half of the same side. These films show the transient character of the inflammatory process characteristic of Loeffler's syndrome.

Laboratory Tests:

Sputum was negative for tubercle bacilli on direct smear and after concentration. Blood study revealed the white count to be 11,200; red count, 5,200,000; hemoglobin, 80%. Modified Arneht Schilling count was as follows:

**FIGURE 4**

<i>Basophile</i>	<i>Eosinophile</i>	<i>Stab</i>	<i>Segmented</i>	<i>Lymphocytes</i>	<i>Monocytes</i>
0	51	4	30	81	7

Urine was negative.

Because of the history of nasal allergy, the transient character of the inflammation and particularly the eosinophilia (Fig. 3), a diagnosis of Loeffler's syndrome was made and patient was given symptomatic treatment based upon the supposition that the condition was an allergic pneumonitis. Specifically, he was given the following prescription—3 per cent ephedrine sulphate 10cc., saturated solution of potassium iodide 10 cc., and syrup of white pine to make a four ounce mixture; dose, one teaspoonful four times a day.

On September 4, 1942, the patient returned for re-examination. He stated that since his first examination by the writer, he had stayed in bed for over two weeks and that his temperature had dropped three days after the first examination. This time he had no complaints with the exception of weakness. His weight was 156½ lbs., temperature, pulse, and respirations were within normal limits. White count, 7800, red count, 6,620,000 hemoglobin, 90%. Modified Arneeth Schilling revealed:

<i>Basophile</i>	<i>Eosinophile</i>	<i>Stab</i>	<i>Segmented</i>	<i>Lymphocytes</i>	<i>Monocytes</i>
3	2	5	45	40	5

Fluoroscopy revealed complete clearing of the previous lesion. Flat roentgenogram taken on 9/4/42 (Fig. 4), showed complete clearing of the lesion. The patient has been under observation since his attack and has been seen frequently in the office, on June 6, 1944, last, mainly because of his difficulty in breathing which seems to have developed since his attack of Loeffler's syndrome. His symptoms and physical signs, and present history, are those of a typical case of bronchial asthma. Since he states that an attack of dyspnoea and wheezing frequently follows a local treatment for his nasal condition, it is logical to assume that the patient may be allergic to the drugs used. Undoubtedly in this case the predisposing factor was an allergic background which prepared the soil for the development of the eosinophilic pneumonitis.

CONCLUSIONS

A review of the literature leads to the conclusion that Loeffler's syndrome is usually found in individuals with an allergic tendency. Intestinal parasites are frequently found in association with Loeffler's syndrome and may act as a contributory cause.

More recent investigations indicate that pathologically the condition represents an eosinophilic pneumonitis.

The outstanding findings in Loeffler's disease are the blood eosinophilia, the transient pulmonary infiltrations, the mild course, and the spontaneous healing without complications.

No specific treatment is known for the condition.

CONCLUSIONES

El repaso de la literatura nos conduce a la conclusión de que el síndrome de Loeffler generalmente aparece en individuos con tendencia alérgica. Con frecuencia se descubren parásitos intestinales en casos del síndrome de Loeffler y es posible que sean causa contribuyente.

Las investigaciones más recientes indican que, desde el punto de vista patológico, este síndrome representa una neumonitis eosinófila.

Los hallazgos principales de la enfermedad de Loeffler son: la eosinofilia en la sangre, las infiltraciones pulmonares transitorias, el curso leve y la curación espontánea sin complicaciones.

No se conoce ningún tratamiento específico para esta enfermedad.

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Bronchoscopy in Pulmonary Tuberculosis*

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The purpose of this paper is to report briefly on the work done by a bronchoscopist associated with tuberculosis specialists, for diagnosis and treatment of tuberculous lesions and other abnormalities of the bronchial tree. Two hundred seventy nine patients affected by pulmonary tuberculosis were studied and treated endoscopically. A total of 502 bronchoscopies were done. Most of these patients were seen at the Sanatorio para Tuberculosos de Huipulco, Mexico, the remainder at the Hospital General and in private practice, since 1936.

According to Brock,¹⁵ the bronchial element is one of the most important factors in pathogenesis and treatment of pulmonary tuberculosis. Our own observations prove for us the correctness of his view, and lead us to the conclusion that any clinic of tuberculosis should have facilities for carrying out the endoscopic study of the tracheobronchial tree routinely. Not every patient having pulmonary tuberculosis should be bronchoscoped, but all of them ought to be carefully studied in making a selection of cases to be sent to the bronchoscopist. That is the way we have studied most of the cases at the Sanatorio de Huipulco.

Of the 279 patients studied, 174 were male and 105 female; their ages ranged from 15 to 50 years, with adults predominating over adolescents. Tuberculous lesions were found in 83 adults of 20 to 45 years of age, or 29.7 per cent of the total group. This percentage is not excessive when it is taken into consideration that most of these patients were selected for bronchoscopy because tracheobronchial lesions were suspected.

The table on the following page indicates the types of lesion observed, and their frequency.

The solitary ulcer was seen usually as a small, round, superficial ulcer, with sharp edges, without any alteration of the surrounding tissue; bleeding at the slightest contact. Sometimes it is covered with a yellowish exudate; occasionally it looks like a simple erosion of the mucosa.

The granulomatous ulcer, which is the most common type of lesion, was seen as wide modification of the endobronchial mucosa, with yellowish granulation tissue. As soon as this tissue is removed,

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	<i>Female</i>	<i>Male</i>	<i>Total</i>
Solitary Ulcer	1	8	9
Granulomatous Ulcer	22	30	52
Hyperplastic (including tuberculoma)	8	10	18
Fibrostenotic	1	3	4
TOTAL	32	51	83

the lesion becomes reddish and bleeds easily. When it is touched with a silver nitrate solution the color turns to gray. The granulation tissue is friable; a moderate amount of purulent material can be aspirated. Stenosis of the lumen is the consequence.

The hyperplastic lesion seems to be the result of a deep infiltration of the submucosa causing remarkable stenosis of the lumen. Sometimes the trachea and one bronchus as well as the carina are involved. At other times it presents the appearance of sessile tumor. Biopsy demonstrates its tuberculous nature. The color is darker than that of the normal mucosa. Some irregularities due to ulceration may be observed.

The fibrostenotic type was recognized in this series of cases by the smoothness of the edges and its hard consistence and stiffness. A bilateral fibrostenosis was observed in one case. The patient was suffering asthmatic attacks periodically; Koch bacilli were absent from the sputum. Both lungs were affected by fibrosis, and moderate dyspnea had been present for two years. When observed endoscopically, just after the bronchoscope was withdrawn a serious attack of dyspnea appeared, and the patient fell into coma. Oxygen insufflation through the bronchoscope, which was quickly inserted again, and administration of stimulants, saved him. This patient died three months later in acute dyspnea.

The clinical diagnosis was based on the following symptoms: subjective pressure felt on the anterior wall of the chest; difficulty in expectorating; ronchi and asthmahoid wheeze, sometimes heard at a distance from the patient; subjective sensation of foreign body in trachea; snoring; intermittent vomica; cough with or without expulsion of purulent material; recurrent fever; slight or marked dyspnea; flatness on percussion of the interscapular area; rales (sub-crepitant); and signs of limited atelectasis, emphysema or condensed areas, not attributable to the effects of treatment.

The radiologic signs were variable depending on different circumstances, such as degree and type of stenosis of the bronchi

and parenchymal lesions and method of treatment applied to the lung. Localized emphysema and atelectasis due to bronchial obstruction and retention of secretions can be noticed on the x-ray films.

The distribution of tuberculous lesions of the tracheobronchial tree, was as follows:

	<i>Times</i>	<i>Percent</i>
Trachea	6	7.2
Right bronchus	25	30
Left bronchus	46	55.4
Both bronchi	4	4.8
Carina	2	2.4

This distribution includes different locations in the secondary bronchi.

The major frequency of lesions in the left bronchus would probably speak in favor of infection by the mechanism of prolonged contact with purulent secretions coming out from the lungs, considering that drainage is more difficult from this side, on account of the different angle of deviation of the left bronchus.

Different forms of local treatment were employed. Electrocoagulation did not seem to give the best results. Applications of silver nitrate solution, 10 to 30 per cent and in one case 50 per cent, were successful. The aspiration of secretions and caseous material was absolutely necessary as first stage of the treatment. Removal of exuberant tissue to get a good drainage of the lung and a better result from the application of chemical agents, was helpful. Dilation of stenosis, insinuating the tip of the bronchoscope or using olivaire bougies, gave good results; it failed in cases of fibrostenosis.

In 83 cases of tuberculous tracheobronchitis, 28 patients were bronchoscoped one time only; 32 were bronchoscoped and locally treated from 2 to 6 times, not enough to see a definite result, but relief of symptoms was appreciable. The lesion was found healed after local treatment in the remaining 23 patients. Five of them had solitary ulcer and needed no more than two applications of 10 per cent silver nitrate solution. Seventeen had granulomatous ulceration and needed from 2 to 11 treatments in different lapses of time, between one month to more than one year. Only in one patient having hyperplastic lesion, healing and a considerable reduction of stenosis was observed after five endoscopic treatments. Practically in all these cases pulmonary treatment was already

started, and continued in some of them after the cure of tracheo-bronchitis was obtained. There was no special indication to change the method of treatment for parenchymal lesions, except in a few cases. This treatment included different methods, mainly collapse therapy.

The abnormalities observed bronchoscopically in cases of pulmonary tuberculosis, were displacement of trachea and bronchi, deformities of the lumen and partial or total stenosis of the bronchi. In those cases in which collapse of the entire lung or a definite lobe is observed, the tracheobronchial tree is displaced to the opposite side. This fact was noted many times in this series. The deformities were produced by extrinsic pressure, caused sometimes by hypertrophied glands of the mediastinum, some other times by certain type of collapse therapy. Fibrosis was another reason.

It is surprising how often total or sub-total stenosis of secondary bronchi produced by extrinsic pressure can be seen. X-Ray films help to give a correct interpretation. No modification of the mucosa can be observed, but the walls of the bronchi are intruding in the lumen. When the closure of the bronchus in communication with a cavity is incomplete, this knowledge has been helpful to the specialist, who always wants to know how effective collapse is or where the purulent material comes from, particularly when there is not a satisfactory explanation for the presence of tubercle bacilli in the sputum, in spite of clinical and radiologic control of the patient's parenchymal disease.

Aspiration through the bronchoscope before and after thoracic surgery, was done many times in this group of cases. In some of them there was a sudden drainage of the cavities, meaning a real menace to the life of the patient, a few hours after thoracoplasty. Atelectasis of the opposite lung was prevented by oportune aspiration.

There is no doubt that bronchoscopy is one of the best helps for the pthysiologist or thoracic surgeon. The procedure has many advantages and does not constitute a danger in tuberculosis. No mortality was observed that could be attributed to the introduction of endoscopic tubes or manipulation inside the tracheobronchial tree. One fatality occurred, as a result of intoxication by morphine. This patient was in bad condition, and died an hour after endoscopy was finished. Intoxication by that drug was proved. Sedatives should be used with great care in similar circumstances.

SUMMARY

- a) Two hundred seventy nine patients with pulmonary tuberculosis were studied by bronchoscopy.
- b) Eighty three cases of tuberculous tracheobronchitis, 29.7 per

cent, were discovered. Healing of the lesion by local treatment was obtained in 23 patients.

c) Abnormalities of the tracheobronchial tree in tuberculous patients under pulmonary treatment are briefly reviewed.

d) The importance of bronchoscopy in tuberculosis is stressed, as complementary for both diagnosis and treatment.

e) One important feature of this research is that no case of tuberculous bronchitis was discovered among people under twenty years of age, though the group included patients from 15 to 50 years old.

RESUMEN

a) Fueron estudiados mediante la broncoscopia 279 pacientes con tuberculosis pulmonar.

b) Se descubrieron 83 casos (29.7 por ciento) de traqueobronquitis tuberculosa. En 23 pacientes se obtuvo la curación de la lesión por medio del tratamiento local.

c) Se repasan sucintamente las anomalías del árbol traqueo-bronquial en pacientes tuberculosos bajo tratamiento pulmonar.

d) Se hace notar la importancia de la broncoscopia en la tuberculosis como complemento tanto del diagnóstico como del tratamiento.

e) Un hecho importante de esta investigación fué que no se descubrió ningún caso de bronquitis tuberculosa en personas menores de veinte años, aunque el grupo incluyó pacientes de 15 a 50 años de edad.

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INTRODUCTION

Refresher Course on Diseases of the Chest*

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The papers presented in the following symposium represent the realization of the desire of the members of the Illinois Chapter of the American College of Chest Physicians to promote the idea of establishing refresher courses at each annual meeting. The Committee on General Arrangements for the Chicago meeting of the American College of Chest Physicians in June, 1944, decided to devote a morning program to such a course. It was felt that common subjects which are pertinent to the specialty of diseases of the chest and the kind everybody should know about, but which are usually considered trite and old, would be quite refreshing to the average Fellow who would care to take an hour or two to sit down, relax, and listen to some new angles. Furthermore, the discussion of such problems would give an opportunity to the Associate Fellows to have these common difficulties brought to their attention.

This refresher course was well attended and the comments of the Fellows who were present were enthusiastic. We of the Illinois Chapter feel that this procedure should be adopted as a part of the subsequent meetings.

In order that the general membership of the College may have a voice in this matter, the Program Committee requests your comments on the following points:

1. Should a refresher course be continued at each Annual Meeting?
2. How extensive should this course be?
3. Should it be sponsored by the local Chapter or arranged by the Program Committee?
4. Should the speakers be local men or not?

The function of the College is to be of the greatest assistance to its Fellows and Associates. Comments and suggestions on this matter will be welcomed by the Program Committee. Just send them to the Executive Office.

*Presented by the Illinois Chapter, American College of Chest Physicians, at the Tenth Annual Meeting of the College, Chicago, Illinois, June 10, 1944.

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The Present Status of Tuberculosis in Children

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This paper is intended as a broad review of the problem of tuberculous infection in children. It cannot be a complete discussion. I will confine my discussion to human pulmonary tuberculosis. The problem of bone, joint and gland tuberculosis, that was so prevalent in the past, has taken a minor place since the work of the veterinarians toward eradicating tuberculosis in cattle and the universal pasteurization of milk have practically eliminated milk as a source of infection in the United States.

Twenty years ago it was thought that the primary invasion of tuberculosis in childhood was a dangerous condition needing active treatment. Children were treated in institutions and special schools were established for their segregation and observation. As time elapsed and data accumulated it was found that a child with a primary infection did as well at home as one that was treated under a controlled regime. The excellent work of J. A. Myers et al.¹ at Lymanhurst, in Minneapolis, Minnesota proved conclusively this fact. He states, "Despite the fact that we had been strongly of the opinion that treatment is of value to the child with the first infection or primary type of tuberculosis, actual observations did not support our contentions."

The age of childhood, let us say from the age of 2 to 12 years, has shown a morbidity and mortality from tuberculosis that is less than other periods of life. According to the figures of the United States Bureau of Census, for the years 1930 to 1942, the average tuberculosis death rate per 100,000 population in the United States under the age of 25 was as follows:

Under one year	33.9
One to four years	17.00
Five to fourteen years	7.7
Fifteen to twenty-four years	50.6

We know from various sources that the figures on the development of re-infection tuberculosis vary considerably. They range from 0.5 to 10 per cent. In a follow-up of 1,000 children with primary infections at Bellevue Hospital, New York City, Dr. Edith Lincoln² reports 8 per cent of the survivors developed chronic pulmonary tuberculosis. Myers³ reports that in the study of groups of children who have developed a primary infection and who

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reach the age of 21, 10 per cent have already developed clinical disease.

These figures are large enough to make us consider with seriousness the primary infection of tuberculosis. While we do not need to use active treatment in the so-called benign primary phase, we do need to observe and check periodically positive reactors to tuberculin, as a good piece of work in preventive medicine.

It is known that the primary invasion of the bacillus may take place at any age. It was once thought to occur always in childhood. We now know that we can no longer use correctly the term childhood tuberculosis but must say tuberculosis in childhood.

The skin test and the x-ray have proven that many escape a tuberculous infection. In a business group of 126 adults, tested by the writer, whose ages varied from 21 to 61 years, the average being 35, 26 per cent were positive to the tuberculin test. The results of the testing of over 20,000 school children in Du Page County, Illinois, from 1938 to 1944 show a progressive drop in the incidence of positive reactors from 19.1 per cent in 1938 to 8.7 per cent in 1944. In another group of 12,000 high school students tested in these same years only 10.8 per cent were positive, with 12 cases of tuberculosis found on the first x-ray.

There may be many reasons for this progressive drop in the number of those allergic to the skin test. Some of these reasons are better knowledge of the disease, its prevention and treatment, wider application of modern methods of treatment, better economic and social conditions. There are probably others that are not as apparent.

In spite of this decline in the morbidity and mortality from tuberculosis, particularly in the United States, we still have with us a dangerous disease that may not be a major problem in the childhood years but that increases in morbidity and mortality as life advances for the child. In the age of puberty and on through the early adult years, that is from 15 to 45, it becomes the greatest cause of death. Because the reinfection phase of tuberculosis is not as prevalent in childhood and the primary invasion is benign, the supervision of children in some quarters has become lax. Chadwick⁴ states that in his investigation among 400,000 school children who were tested, the morbidity from adult tuberculosis in the reactor group was four times that of the non-reactor group, and the death rate in this group was three times as great as in the non-reactors.

Let us review briefly the primary invasion of tuberculosis. When the tubercle bacilli first enter the body they establish themselves in 85 per cent of the cases, in the lungs. They have a particular attraction for lymphatic tissue. The leucocytes immediately at-

tack and many bacilli are transported to nearby lymphatic glands.

Parrot⁵ states: "Every time that a bronchial gland is the seat of a tuberculous lesion, there is an analogous lesion in the lung." The lymphatic system bears the brunt of the first infection. The primary focus with its corresponding lymph glands becomes the primary complex. What does this primary invasion accomplish? After the incubation period of 4 to 6 weeks the phenomena of the primary complex are taking place. At the end of this period the individual has developed an allergy to tuberculo-protein. There may be quite an acute inflammatory process in the region of the primary complex. During this stage when the regional lymphatics are involved, there is some seeding of other organs by way of the blood stream. Usually there is no evidence, clinically, of this occurrence; but it is an important happening, as from these new foci may later come clinical disease.

In some instances, not many, when this scattering of the infection from the primary focus occurs there is an overwhelming infection leading to a generalized tuberculosis with death from meningitis. After the regression of the primary complex, which may take months to disappear, the individual seems no worse because of this happening. However in some a later phase develops. This phase may be called a secondary manifestation and can be mild with a tendency to heal, such as pleurisy, peritonitis or skin tuberculosis. It may be severe with a poor prognosis, such as miliary tuberculosis or meningitis. These secondary manifestations of tuberculous disease are often not recognized and are inadequately treated. Then later usually within a 2 to 3 year period we may see a third or reinfection phase of disease develop. Whether or not such reinfection is due to the breaking down of an endogenous focus or whether it is due to superimposed reinfection, the result pathologically would be the same.

All cases of reinfection do not pass through these secondary changes. The reinfection reaction of the body is different from the primary invasion. Here we have a disease with a chronic insidious and destructive behavior. The primary invasion may never progress but may regress leaving the individual with the scars of the complex in the lungs or other organs and sensitizing the individual to tuberculo-protein. In others the evidence of the complex may disappear even to the loss of allergy.

There is considerable difference of opinion on the role of allergy in the pathogenesis of tuberculosis. According to Myers: "Regardless of when it develops the first infection type leaves the body in a hazardous condition from the standpoint of the reinfection."

This primary invasion, in conferring an allergy on the individual, also confers an immunity. Pottenger⁷ states: "All sensitiza-

tion which is brought about by the first infection is generally accepted as being the first important link in the chain which represents immunity." He goes on to say, "Immunity in tuberculosis unfortunately is not a state of absolute protection from infection, but a relative protection." To discuss at length the various arguments for or against the value of the immunity conferred by a primary infection would be considerably beyond the scope of this paper. It can be said, however, that a primary infection does not confer sufficient immunity to prevent the reinfection phase from occurring. If we can prevent a primary infection, it is axiomatic that the destructive type of tuberculosis will not develop later. There are those who, believing in relative immunity, advocate the inoculation with B.C.G. vaccine. But if a positive tuberculin reaction is indicative of allergy and some degree of immunity and, as stated, this immunity does not protect from a reinfection of disease but predisposes the individual to an attack of a more dangerous type of infection, it would seem that conferring such an allergy would defeat the purpose for which it was given. Such inoculation also destroys our only means of detecting the actual invasion of tubercle bacilli in negative reactors who are exposed to open cases. On the other hand we know that in primitive races such as the Eskimos who have no so-called racial resistance to tuberculosis, since the advent of the white man into their domain, tuberculosis has taken a great toll. If we should develop a race of people with no contact with tuberculosis we might see a fulminating type of the disease occur. With this line of reasoning the seeding of the population with minimal doses of tuberculosis would serve as a protection. Robert Louis Stevenson is the authority for a story about a Marquesan tribe of superior physique that was reduced by tuberculosis in a single year from some 300 souls to a solitary pair of survivors.

This problem of the value of immunity conferred to peoples by contact with tuberculous disease may be answered in the not too distant future. If the incidence of infection continues to subside and a race of tuberculin-negative people populate the earth only history will tell us whether we will see this disease in epidemic form.

This so-called reinfection phase, or what has been incorrectly called adult tuberculosis, is the chronic pulmonary tuberculosis which creates our problems in treatment and serves to spread infection to others. It has a tendency to begin in the subapical region of the lungs where it may remain for many years in a subclinical state. It may even regress and disappear. If it progresses, anatomically it will involve the apical area when clinical evidence may be found.

During the presymptomatic stage physical signs or symptoms are absent. It is here that the tuberculin test and the x-ray play a very important part in the discovery of early lesions, before a chronic destructive process gets a start.

The work of the Selective Service System in taking x-ray films of all candidates for military service has unearthed thousands of cases of unsuspected tuberculosis. The writer on reviewing scores of films of rejectees has found evidence on the films of all stages of the development of tuberculous disease. Many had shadows that one might say were typical of tuberculous pathology but that on closer study were found to be non-tuberculous. Others with but little evidence on the x-ray film were found with active tuberculosis. Such cases need careful study before one reaches a conclusion. The x-ray film is only part of the picture. It may be necessary to use the sedimentation rate, the temperature chart, differential blood studies, animal inoculation, serial films, and extended observation to diagnose this insidious disease in its early phases. These facts only serve to emphasize the one fact that there are no pathognomonic signs, symptoms or x-ray film shadows that with certainty indicate tuberculosis.

SUMMARY

The primary infection of tuberculosis may occur at any age. Tuberculosis in infants has a relatively high mortality which subsides in childhood only to rise again in puberty. The sensitization conferred by a primary infection opens the way for a destructive phase of tuberculosis to develop. The value of the immunity conferred by a primary inoculation is not settled. Tuberculosis in its preclinical form is often difficult to diagnose. It is said that, "The child is father of the man," so a primary tuberculous infection is the sire of destructive disease. We should not neglect tuberculosis in children.

RESUMEN

La infección tuberculosa primaria puede ocurrir a cualquier edad. La tuberculosis en la infancia tiene una mortalidad relativamente alta que desciende durante la niñez, pero que sube de nuevo en la pubertad. La sensibilidad que produce la infección primaria abre el camino para el desarrollo de la fase destructiva de la tuberculosis. No se ha establecido todavía el valor de la inmunidad producida por una inoculación primaria. El diagnóstico de la tuberculosis en su forma preclínica es frecuentemente difícil. Se ha dicho que "El niño es el padre del hombre," así la infección tuberculosa primaria es la progenitora de la enfermedad destructiva. No debe descuidarse la tuberculosis en los niños.

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Management of Minimal Tuberculosis

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The most striking phenomenon in tuberculosis control is the constant change of our attitude toward, and modes of, control. Although the disease itself does not change, our knowledge of the behavior of this disease is augmented as the years go on. Methods of control which were held in highest esteem are now obsolete in our present-day armament. The reason for this is quite evident, when we consider that we are now finding a new type of disease; that is, minimal tuberculosis, which really is a type of disease in itself.

In the not-so-far past, say about ten years ago, we were discovering tuberculosis in the following percentage groups: About 80 per cent of all cases discovered were in the far-advanced, 16 per cent in the moderately-advanced, and 4 per cent in the minimal stage. At the present time under tuberculin surveys, mass x-ray, and intensive contact control, we have the following percentages: 62 per cent in the minimal stage, 31 per cent moderately-advanced, and 7 per cent far-advanced. This gives us a tremendous increase in the minimal cases and has brought to us an immense problem; that is, how to treat these cases. There was a time, before we really had these cases available, when it was felt that the outlook for patients with minimal tuberculosis, as contrasted with the outlook for patients with advanced tuberculosis, appeared so favorable that it seemed almost sufficient to make an early diagnosis to insure satisfactory results.

Many of the reports of excellent prognosis in minimal tuberculosis have come from sanatoria where the outlook upon minimal tuberculosis is not the same as that in the clinics at the time of early diagnosis. In the Henry Phipps Clinic, Philadelphia, Pa., even though the most modern attitude towards seriousness of minimal tuberculosis is held, the results are astonishingly poor—almost half developed progressive disease.

How are we to avoid these rather bad results after working so hard to discover these early cases? The answer, I believe, lies in a comprehensive follow-up of the patient once a diagnosis is made.

In most diseases the prognosis of a diagnosed case can usually be made with accuracy, provided an etiological diagnosis is available. This condition does not exist in minimal tuberculosis. As

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you all are aware, not all cases behave in the same manner. Some will show a spontaneous clearing under little or no treatment; some will remain static; some will be slowly proliferative; some will be quickly exudative; and some will extend in a matter of a few days to moderately or even far-advanced cases.

When a diagnosis of minimal tuberculosis is made, it is not enough to know that it is caused by the tubercle bacillus or that the lesion is quite small; but to have a working knowledge of the probable prognosis of each case is an achievement to be desired. This is not simple nor can it be accomplished with one weapon. Rather a combination of all sources of information should be used. Every case of minimal tuberculosis is an individual problem and must be handled as such. Our aim is to determine as closely as possible whether the case is retrogressive, static, or progressive. This, I believe, can be accomplished by evaluating all of the following factors in each individual case of diagnosed minimal tuberculosis:

1. *Past History:* A definite history of close and prolonged contact to an open case of tuberculosis is a positive factor in favoring a progressive disease. A negative history or an absent history of contact, while only of value in a negative way, would bear upon the prognosis. A previous history of pleural effusion on a tuberculosis basis would definitely indicate progressive disease.

2. *Predisposing Factors:* An individual who is in the "teen-age" group is certainly much more inclined to progressive disease, than one who is much older. Sex is a factor only in that younger females develop progressive disease faster than the males of the same age-group. Difference in race is an important factor. The colored, Mexican, and Indian races usually have more progressive lesions than the white race. People engaged in hard manual labor are much more apt to develop a progressive lesion than those who are occupied in the so-called white-collar positions. The economic status deserves consideration. Those with a high economic status are much more liable to remain static than those who have a very low economic status. Co-existing diseases are a considerable factor. Syphilis, diabetes, and long-standing non-specific disease would produce a progressive disease.

3. *Present Complaint:* Patients who have symptoms such as cough, loss of weight, slight temperature, night sweats, loss of energy for quite a long while, and only a minimal lesion on x-ray have a very mild progressive lesion. Asymptomatic patients give no clue to the character of their lesion.

4. *Physical Findings:* The absence of physical findings gives no indication as to the nature of the lesion. However, should there

be present definite physical findings such as rales or altered breath sounds, then we can think of a progressive lesion.

5. *X-Ray*: The importance of x-ray examination does not cease when the diagnosis of tuberculosis is made. It now takes on a new role, that of recording changes in the existing foci or the presence of new lesion. Serial x-rays taken at six-week intervals will indicate change and hence the presence or absence of progressive lesions. It is a foolhardy man who will give a prognosis on the examination of a single x-ray film.

6. *Sputum Examination*: The presence of positive sputum indicates a progressive or active lesion. This can be obtained from direct smears or gastric washings.

A complete evaluation of the above factors will usually lead us in following three categories: (a) Active, progressive, unstable disease; (b) Lesions of doubtful significance; that is, we cannot determine whether or not activity is present; (c) Lesions where general score would indicate or suggest complete static or healed state.

The management of each group is definitely different: Lesions that are determined to be progressive demand active treatment. This means the instituting of collapse therapy and complete bed rest. This is best accomplished in a hospital or a sanatorium. Conditions may be present where hospital or sanatorium is not available. In such a case complete bed rest with collapse therapy at home is indicated. The treatment of lesions of doubtful degree of progression demands a realization that the lesion might become activated by home conditions. It is important that the patient be given the benefit of the doubt and have a period of rest with observation. Complete bed rest with serial x-rays will indicate whether there has been any progression. If there is no change in the x-ray appearance, it is now safe to consider these lesions as static.

All static lesions should be examined at two-month intervals. This type of treatment would be considered as observation with modified rest. The patient must be considered to be a potential case at all times and should have regular x-ray examinations at three-month intervals, as long as two to three years.

SUMMARY

There is no such thing as a routine treatment for minimal tuberculosis. It is equally absurd to say either that every case should receive pneumothorax or that collapse should never be used until the disease becomes moderately or far-advanced. Every case must be individualized, and this can be done only by a proper follow-up

to determine just what is happening in each case. As yet we have no test which will tell us just what the future potentialities of the case are. Only the tedious, difficult, close follow-up is now available; and using this method will give us the best results obtainable.

RESUMEN

No hay tratamiento rutinario para la tuberculosis mínima. Es tan absurdo decir que cada caso debe recibir neumotórax como que nunca debe emplearse el colapso hasta cuando la enfermedad esté moderadamente o muy avanzada. Debe individualizarse todos los casos, y ésto sólo puede llevarse a cabo mediante una observación adecuada a fin de determinar exactamente lo que está sucediendo en cada uno de ellos. Todavía no tenemos prueba alguna que nos diga exactamente cuál es la futura potencialidad del caso. Sólo contamos hasta ahora con la fastidiosa y difícil observación subsecuente íntima, y el empleo de este método nos dará los mejores resultados que se puedan obtener.

Pregnancy in Tuberculosis

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The private physician is still Keeper of the Keys of Health for the families of the nation, and his care of his private patients is the Master Key opening the way to the final solution of the tuberculosis problem. In the last analysis, his is the responsibility for the control of the spread of this disease and for its final elimination; and it is his duty to allay the morbid fears of his patient's family, to give expert advice, mental comfort and ultimate happiness by a proper and personal decision when particular emergencies arise.

One of the emergencies likely to occur during the treatment of a tuberculous woman is pregnancy. Great as the responsibility is in such a combination of events, it is still greater when active unsuspected tuberculosis is discovered in a woman who is pregnant. Another situation occurs when tuberculosis has been discovered and arrested and the couple desire a child and heir, and they consult their physician for advice on the proper procedure to follow to give them reasonable assurance that no harm will befall the prospective mother or offspring. In each of these situations the physician must have an answer that will give this assurance, and must have a definite and logical course to follow when they occur. The procedure to be followed in treating these patients requires the closest cooperation between and study by obstetricians and those skilled in the treatment of chest diseases, to properly preserve the lives of the mothers, conserve their health and insure a healthy future for the infants.

There is still some controversy concerning the effects of pregnancy on the course of active tuberculosis. This problem is notoriously difficult to submit to statistical analysis and the conclusions arrived at in articles published in the last thirty years, from both general practitioners and specialists, have shown a wide divergence of opinion, seemingly supported by statistics of the authors, as to the effect of pregnancy on the tuberculosis and as to the proper procedure to be followed when the two conditions coexist. However, the best observers know from practical experience that the effect of pregnancy on active tuberculosis is predominantly bad.

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Pregnancy does constitute a serious drain on the tuberculous woman. The fact that she gains weight and looks better during pregnancy is misleading to the clinician and constitutes one of the most puzzling phenomena in clinical medicine. There is something that carries the chronically ill and doomed woman through pregnancy until her function with regard to propagation of the species has been fulfilled and then allows her to die, sometimes quickly. Had this phenomenon not been observed in women with cancer, diabetes and pernicious anemia, one would be inclined to believe that in the case of tuberculosis it is due to a gradually increasing partial collapse effect of the pregnant uterus which causes an elevation of the diaphragm in the last half of pregnancy. For many years this has been considered as a possible benefit by giving a form of collapse therapy equivalent to a phrenic nerve operation, but recent investigation has disproven this theory. The elevated diaphragm of pregnancy is not comparable to the high immobile diaphragm of phrenic nerve paralysis. It moves about as much as a normal diaphragm, the respiratory excursion is not decreased and may possibly be increased, so that the lung is not immobilized as we formerly supposed.

Tuberculosis has moved from first place to seventh as a cause of death in the general population, but for child-bearing young women it still stands in first place. Twenty per cent of all deaths in this group are due to the combination of tuberculosis and pregnancy, a rate twice as high as the mortality from all puerperal causes; and modern medicine generally deplores the inter-currence of pregnancy in the tuberculous woman.

Nevertheless, there is no doubt that the gloomy picture displayed in the literature of both medicine and obstetrics a few decades ago and the statistics which supported this grey pessimism belong in a past era. With the advantages of early diagnosis and collapse therapy, the pessimism often expressed is no longer warranted and much of the harm that might have befallen these patients has been averted. When the management of both conditions is conducted properly and use is made of collapse therapy, sanatorium care, local anesthesia, Caesarean section, and improved treatment of all the possible complications of pregnancy and delivery, it gives a solid foundation on which the successful child-bearing of these patients may rest.

It has been shown by investigators at the Chicago Lying-In Hospital that ten times more unsuspected tuberculosis can be found in pregnant women by fluoroscopic and radiographic examination. Of nearly 11,000 patients examined, one woman out of one hundred had tuberculosis which had never been suspected.

The incidence of unsuspected tuberculosis is about three times the incidence of unsuspected syphilis in the same group.

From statistics of this and similar compilations it is conclusive that the existence of tuberculosis and pregnancy together is still one of the problems that face the obstetrician and the chest physician, and a search for tuberculosis in all pregnant women becomes an essential part of prenatal care.

The adoption of routine tuberculin testing early in pregnancy and radiographic examination of the reactors for pulmonary tuberculosis should be encouraged; and as tuberculosis control becomes more efficient the problem of finding the tuberculous pregnant woman will be simplified and adequate care can be provided earlier. Inclusion in the marriage laws of routine radiographic examination for tuberculosis as a requirement for a license to wed would decrease the morbidity rate of active tuberculosis comparable to the reduction achieved in syphilis.

The avoidance of pregnancy is the most important primary consideration for the tuberculous patient and her physician. No woman who has active tuberculosis should consider pregnancy for at least two years after complete arrest of her disease, or even longer if the treatment required to heal the lesion was difficult, or if there is even the slightest doubt in the mind of the physician. The diagnosis of arrest of the disease must be based on a very careful study of the entire progress of the case and must not be arrived at casually. Many tuberculosis patients appear to improve throughout pregnancy, only to show a decided tendency toward aggravation of a mild lesion or activation of a dormant lesion in the first few months after delivery. This type of case is especially hard to prognosticate and should be sufficient reason for a reserved attitude toward allowing a pregnancy.

Therefore, when matrimony is contemplated by a woman with active or latent tuberculosis a very careful study of her condition should be made before allowing the possibility of pregnancy, so as to be assured of a reasonable chance that her chest lesion will remain quiescent, that she can stand a labor—normal or modified—and that satisfactory supervision and treatment can be provided. On such a study alone can be based a recommendation for or against marriage. In some cases the type of tuberculosis together with the nature and severity of the lesion in other organs may indicate postponement of marriage until these disabilities are eliminated.

Sterilization should be considered where a slowly healing chest lesion is present, where a longer period than is deemed convenient must elapse before the marriage, or where there is uncertainty as to the outcome of the healing of the chest pathology. This

can be done through a small incision in the abdomen under local anesthesia, the tubes ligated, and the incision closed with no shock and practically no danger to the patient. In younger women with better chances of healing, or in those whose tuberculosis is of such nature that the indication for sterilization is less obvious, contraceptive advice including a properly fitted diaphragm is the better choice.

When pregnancy is suspected, every available diagnostic aid must be used to confirm its presence beyond doubt. Tuberculosis often interferes with normal menstruation, so that absence of the normal menstrual flow in a woman previously regular may not have the same diagnostic value as it would in a nontuberculous woman. Consideration must be given to other presumptive signs of pregnancy, such as breast changes, discoloration of the vaginal and cervical mucosa, dermal pigmentation and gastro-intestinal disturbance. The Friedman and other reliable tests may have to be employed to determine the true diagnosis.

If and when the diagnosis of pregnancy in the tuberculous woman or tuberculosis in the pregnant woman has been made, there need be no serious concern or panicky procedure. The course of action must depend upon a consultation between the obstetrician and the phthisiotherapist. There are two courses that can be followed, requiring the closest study and keenest judgment to arrive at a decision as to which is proper—either to permit the pregnancy to continue to delivery or to recommend its termination. The responsibility of terminating a pregnancy cannot be taken lightly when it may mean ending the career of a potential Lincoln, or Galileo or Burns, before he has even begun to breathe.

The study on the part of the obstetrician should disclose whether or not the evidence indicates the prospect of a long, difficult labor, a pregnancy complicated by serious depletion from nausea and vomiting, or whether serious damage to essential organs is present or expected later, and note should be made of any other factors depleting the patient's system. It should give information as to the dangers and difficulty of interrupting pregnancy under conditions present and the method suited to the case if it is decided to interfere. If pregnancy has continued to the point where the fetus is viable, he will have to decide when and how labor is to be induced, and foresee the obstetrical complications as they arise and direct their management. This information will allow the internist to judge the probable effect of the strain of pregnancy and delivery on the pulmonary lesion and make it possible to guard against advance of the disease.

On the part of the phthisiotherapist, many factors enter into determination of the prognosis of the individual case. The stage

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and duration of the disease, the type and activity of the lesion, the patient's age, her morale, her mental capacity to cooperate in the treatment, and the nearness of sanatorium facilities are some of the factors that enter into the problem. Other than medical factors modify the picture, such as the physical and emotional strain which the mother endures in the care of an infant. This is particularly marked in those homes which cannot afford to hire adequate help or, in these war times, in homes where it is impossible to obtain assistance. All too often the health of even normal mothers is unable to withstand the increased load of work and responsibility.

When all these factors are given their proper study and thought it will rarely be found necessary to terminate pregnancy if use can be made of the facilities to control the disease during gestation, to insure proper delivery and to provide adequate postpartum care. This may mean continuous observation and treatment by a physician trained in the management of tuberculosis and should, preferably at least, mean sanatorium care or its equivalent for a longer or shorter period during and immediately after pregnancy. It may have to include premature delivery of the child, termination of the pregnancy just before viability of the fetus, or even the performance of therapeutic abortion.

The seriousness of pregnancy to the tuberculous woman is comparatively slight if these therapeutic measures can be successfully carried out; and, given good hospital care and skillful surgery at a properly selected time, the risk is minimal and well worth assumption to insure a much wanted offspring. Given a better and more intelligent understanding of the problems of each individual case, many infant lives that previously would have been sacrificed by therapeutic abortion to save the mother may be preserved, and the mother may emerge from her pregnancy experience (once looked upon as a most dangerous and unjustifiable happening), almost if not quite as safely as the nontuberculous obstetric patient. We can only require for her the same care imposed on all obstetric patients, viz., that her general condition shall be such that she can endure the changed bodily functions incident to her pregnancy and a competence of her organs to carry to a successful conclusion through the stresses of delivery and the postpartum period.

Early or minimal cases of tuberculosis do not offer a serious problem to the consultant when pregnancy complicates the treatment. It may be stated as an elastic rule, subject to individual modification, that in some cases of active minimal tuberculosis it is best to remove the pregnancy and let the woman have all her facilities for conquering the tuberculosis. When the cure of

her disease is complete, then and then only, let her bear children. In other cases, a group becoming larger as the result of early diagnosis and application of collapse therapy, therapeutic abortion may be withheld. The patient is immediately placed in a tuberculosis sanatorium for observation from six weeks to three months. If the lesion appears to be controlled by bed rest or a combination of bed rest and artificial pneumothorax, and if the erythrocyte sedimentation rate is satisfactory, the pregnancy may be allowed to proceed; but if the disease progresses under these conditions, interruption of pregnancy is indicated immediately, preferably before the end of the second month, followed by active tuberculosis therapy. It is better to interfere too soon than too late.

In the case of the woman with advanced tuberculosis the choice of treatment more often becomes a choice of preserving the life of either the mother or the child instead of saving both of them. If the woman wishes to risk all for a living child she should be allowed to do so in the interest of the fetus, since the prognosis for the mother is frequently poor irrespective of the pregnancy.

With collapse therapy even apparently hopeless cases can often be carried through a normal pregnancy and delivery, tuberculosis treatment being continued after delivery. By doing a phrenic crushing using greater than usual pressure, or phrenicectomy, by pneumothorax, and in selected cases holding the diaphragm by use of pneumoperitoneum after delivery, the prognosis is materially improved. The efficacy of collapse therapy may reduce the indications for therapeutic abortion in this type of case.

It has been shown that in some cases abortion may act as a stimulus to the chest lesion, and non-interference is at times the preferable choice for this reason. It may be felt after careful observation that abortion will mean death for both mother and fetus, while allowing progress of the pregnancy may mean only death of the mother, thus sparing the life of the child.

When pregnancy has advanced to the fifth or sixth month before the tuberculosis is recognized it is best to allow it to continue at least until the thirty-second week and then to terminate it by induction of labor or Caesarean section. The time for intervention is not always easy to determine, and depends on how well the mother is able to compensate for the additional strain of the later months of pregnancy. The longer the fetus can remain in the uterus with safety to the mother, the better its chances for living.

Fall states that it might naturally be supposed because of the absence of trauma that there should be no danger to the fetus in Caesarean section, and states that such is not the case. In a

fairly high percentage of cases there occurs following delivery of an apparently lusty baby a gradually progressive weakening of respiration with blue spells and finally death. Autopsy in these cases shows a marked atelectasis which so far has not been explained. The more premature the baby, the greater the danger of this complication.

The technique of delivering the tuberculous woman is one that must be carefully decided upon after close study of the individual case. A woman with a closed quiescent chest lesion, who has had adequate care during pregnancy, may receive the same treatment during labor as any other woman. Gas or intravenous anesthesia is preferred to ether to avoid the irritating effect of the latter agent. If the second stage of labor exceeds an hour, a forceps delivery is indicated to avoid unnecessary pain, exertion and exhaustion. Perineal block with a local anesthetic or caudal anesthesia may be used to relax the outlet, allowing delivery, spontaneous or instrumental, with the least general anesthetic, and allowing post-delivery repair without further general anesthetic.

Conservation of blood is to be encouraged so as to allow all possible help to the patient to battle her tuberculosis, and a supplemental blood or plasma transfusion may be indicated in some cases. Frequent blood studies for anemia during pregnancy may indicate suitable therapy and may disclose, before delivery, an indication for a transfusion so that compatible donors may be on hand in case of postpartum or pulmonary hemorrhage. The danger of even a small blood loss during labor in cases of anemia deserves serious consideration, since under the circumstances a loss of 200 or 300 cc. which ordinarily would be without danger, may prove rapidly fatal.

In no case should lactation be permitted, as it increases the hazard for the mother by using her recuperative and healing powers for the production of milk. If the lesion is kept well collapsed, and the sputum proven negative, it is not usually necessary to separate the mother and infant after delivery to prevent infection of the infant from the mother. If the sputum is positive, protection of the infant from infection is imperative.

CONCLUSIONS

The principles to be followed in the treatment of the tuberculous obstetric patient can be stated in the following items:

First: No one has shown definitely that pregnancy is good for the health of a tuberculous woman in any type or stage of tuberculosis. A neutral effect of pregnancy on a tuberculous lesion is not asked; the risks are too great.

Second: Most investigators, easily 75 per cent, believe that preg-

nancy can, or does, aggravate tuberculosis, while no one has proven that abortion properly performed, early, will be likely to aggravate an early or arrested lesion, if proper tuberculosis therapy is followed afterward.

Third: Every one admits that pregnancy places a severe strain on a tuberculous woman's resources and strength, and that labor is fraught with immediate and remote perils not present in a normal woman.

Fourth: After labor or abortion, treatment for the chest disease should be carried on vigorously, must be continued over sufficient time to guarantee arrest and should not be discontinued too early. In any event, only after careful observation and study by an experienced phthisiotherapist should subsequent pregnancies be allowed and only after careful study of the history and findings have shown the chest lesion to be completely arrested or under complete control.

Fifth: If therapeutic abortion is decided upon it should be done as early as possible, with spinal or gas anesthesia, and a technique adopted to give as rapid delivery of the fetus as possible.

Sixth: After the fourth month of gestation the effect of intervention is comparable to a full term delivery but with proper collateral care in those that have not shown an acute flare up earlier, the risk can be safely assumed, the obstetrician being ready to interfere as soon as labor starts, so as to terminate it rapidly, as by forceps, sparing the patient the stress of inhalation anesthetics. In selected cases labor may be induced after the thirty-second week.

Seventh: The best prognosis for mother and child in any case depends on the close cooperation between the obstetrician and the phthisiologist, with a careful evaluation of the chest lesion and the obstetrical problems involved to insure individualization of treatment for each case according to the conditions that prevail.

Eighth: Every tuberculous woman must have an individual audit of the assets and liabilities present before a decision is made allowing her to become pregnant.

Ninth: Every woman should have a chest diagnosis before marriage and every pregnant woman must have a tuberculin test and/or x-ray study of the chest made early, so that the proper procedure may be followed in her care during pregnancy, delivery and aftercare.

CONCLUSIONES

Los principios que deben observarse en el tratamiento de la paciente obstétrica tuberculosa pueden ser establecidos en los párrafos siguientes:

Primero: Nadie ha demostrado definitivamente que la preñez es beneficiosa para la salud de la mujer tuberculosa en ningún tipo o período de la tuberculosis. No es suficiente que la preñez tenga un efecto neutral sobre la lesión tuberculosa, pues los riesgos son demasiado grandes.

Segundo: La mayor parte de los investigadores, quizás el 75 por ciento, opinan que la preñez o agrava o puede agravar la tuberculosis, mientras que nadie ha demostrado que el aborto temprano, correctamente ejecutado, corre mucho riesgo de agravar una lesión temprana o estacionada, si se sigue después una terapia tuberculosa apropiada.

Tercero: Todo mundo admite que la preñez constituye una carga muy severa sobre las fuerzas y recursos físicos de la mujer tuberculosa, y que el parto está lleno de peligros inmediatos y remotos que no se presentan en la mujer normal.

Cuarto: Después del parto o del aborto, el tratamiento de la enfermedad pulmonar debe ser llevado a cabo vigorosamente, debe ser continuado por suficiente tiempo para asegurar el estacionamiento de la enfermedad y no debe ser suspendido demasiado pronto. Sea lo que fuere, no deben permitirse preñeces subsiguientes sino después de cuidadosa observación y estudio de parte de un tisioterapeuta experto, y después de que el estudio cuidadoso de la historia y los hallazgos haya demostrado que la lesión pulmonar está completamente estacionada o bajo completo control.

Quinto: Si se decide ejecutar un aborto terapéutico, éste se debe llevar a cabo tan pronto como sea posible, usando anestesia gaseosa o espinal, y debe adoptarse una técnica que permita el parto del feto tan rápidamente como sea posible.

Sexto: El efecto de la intervención después del cuarto mes del embarazo es comparable a un parto al fin de la gestación; pero se puede tomar el riesgo sin novedad, con la propia atención colateral, en aquellos pacientes que no han sufrido antes una recaída aguda de la enfermedad. En estos casos el especialista en obstetricia debe estar listo a intervenir tan pronto como comience el parto a fin de terminarlo rápidamente, como con forceps, para evitar a la paciente el esfuerzo de la anestesia de inhalación. En casos seleccionados se puede inducir el parto después de la trigésima segunda semana.

Séptimo: El mejor pronóstico para la madre y el niño en cualquier caso depende de la cooperación íntima entre el especialista en obstetricia y el tisiólogo, con un avalúo cuidadoso de la lesión pulmonar y de los problemas obstétricos implicados a fin de asegurar la individualización del tratamiento en cada caso de acuerdo con las condiciones prevaletentes.

Octavo: Cada mujer tuberculosa debe ser sometida a un recuento de las ventajas y desventajas presentes, antes de decidir si se le puede permitir el embarazo.

Noveno: A toda mujer se le debiera hacer un diagnóstico pulmonar antes del matrimonio, y a toda mujer embarazada se le debe hacer una prueba tuberculínica o un estudio radiográfico torácico temprano, o ambos, a fin de poder determinar el correcto procedimiento que se debe observar en su cuidado, tanto durante la preñez y el parto como después del parto.

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Chemotherapy of Tuberculosis

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Modern creative chemistry has given to modern medicine and surgery man's most valuable weapons with which to combat disease. Only very short intervals of time elapse between the announcements of new compounds. We are all familiar with developments in the sulfonamide group of compounds and have seen the more effective and, at the same time, less toxic derivatives of sulfanilamide replace those previously used. Similarly, we saw (and used) arsphenamine, then witnessed the introduction of neoarsphenamine and other derivatives of that substance. How eagerly have we watched the work with penicillin—first produced in 1939, lost in the enthusiasm over the sulfonamides, and then rediscovered in the search for something better than the sulfonamides. Today we are on the threshold of an adequate civilian supply of penicillin and this substance is proving to be of utmost value in saving the lives of our fighting men.

The time allotted for this discussion will not permit a review of the many attempts, in the past, to control tuberculous disease chemically. However, out of the work with sulfonamide compounds, searching for a substance better than sulfapyradine to combat pneumonia, came another group of compounds referred to as the sulfones. The first compound in this group, namely, diamino diphenyl sulfone, when tested in laboratory animals, demonstrated a striking ability to control the tuberculous disease in these animals. From diamino diphenyl sulfone, referred to as the parent compound, several derivatives were developed and in turn tested in tuberculous guinea pigs. While the parent compound possessed a decided therapeutic effect it was also extremely toxic. The derivatives have been found to be less toxic. Some of the derivatives are somewhat less effective therapeutically and some have shown no ability to control tuberculous disease in animals.

Clinical investigations have been carried out and reported in which human tuberculosis was favorably influenced by the administration of promin (P,P'diamino diphenyl sulfone-N,N'dextrose sodium sulfonate). This compound was administered to several groups of patients and recorded observations by Hinshaw and Pfuetze, and others have appeared in the literature.^{1,2,3}

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My active interest in such investigations was aroused when an opportunity presented itself to test clinically the effect of another sulfone, namely, diasone (disodium formaldehyde sulfoxylate diamino diphenyl sulfone)* This compound was shown by Feldman⁴ to be less toxic than the parent compound (diamino diphenyl sulfone) when fed to experimental animals. Callomon⁵ demonstrated it to be somewhat less toxic and only slightly less effective in animals than was promin. I have found diasone to be less toxic in humans than was promin, and therefore have carried its administration to patients much further than I had carried promin.

Hinshaw and Pfuetze have used another sulfone derivative, namely, promizole, in clinical tuberculosis but have not reported their observations.⁶

From my experience with diasone over a period of 18 months and in a group of 170 persons, with all stages and manifestations of tuberculosis, I have made a number of observations and formed very definite opinions. The methods of administration, reactions, and factual observations on an initial group of patients were reported in September, 1943.⁷ Subsequent observations and additional data were reported in November, 1943.⁸ Since that time other investigators have begun to administer diasone and a goodly number of reports on their experiences have become available.⁹

From the data at hand, several pertinent statements can be made: 1. Reactions to the compound for the most part are not severe, can be readily controlled by withholding the drug, and no permanent injuries to tissues or organs have been demonstrated. 2. Dermatitis of quite severe proportions is the one reaction which has been reported and considered serious in a half dozen cases. An example of such reaction is reported by Dr. Karl Pfuetze.¹⁰ I have observed two patients with less severe dermatitis.

3. Pulmonary tuberculous lesions of the exudative type have shown favorable response for the most part, exceeding that obtainable without the administration of diasone. Lesions that were predominantly fibrotic or fibro-cavernous either have not been favorably influenced or were so affected only slightly. Large or thick walled cavities must still be attacked surgically.

4. In one patient of our series, an acute exacerbation of disease occurred while she was receiving diasone, after having shown improvement for 60 days.

5. Eighty per cent of a small group with genito-urinary and osseous tuberculosis (all but two patients), have shown symp-

*Product supplied thru courtesy of Dr. J. F. Biehn, Medical Director, Abbott Laboratories, North Chicago, Illinois.

tomatic improvement as well as radiographic and laboratory evidence of control.

6. A few cases of tuberculous and mixed infection empyema have likewise been favorably influenced.

I have not attempted to break down our series of cases into classification of disease, length of treatment, follow-up, etc., in order to prepare tables and statistics. Rather, I have chosen to add the unpublished observations of others to those which have been made in our institution, thus arriving at some generalizations regarding the status of chemotherapy in tuberculosis today.

Predominantly exudative pulmonary lesions, particularly the earlier and less extensive disease, have shown resolution and become sputum negative, in the majority of cases. These changes have occurred sooner than would have been anticipated with conventional therapy.

Patients with large unilateral cavitation and clear contralateral lung have been carried thru thoracoplasty without "spill over" into good lung. Likewise, those who had fresh bronchogenic spreads in contralateral lung were carried thru thoracoplasty and progressively improved the fresh lesion.

A number of advanced cases and a few of those less involved showed either no change or became worse while receiving diasone.

Rapid and pronounced decrease in urinary tract symptoms, disappearance of tubercle bacilli from the urine and an increase in general well being, have followed the administration of diasone to patients with unilateral and/or bilateral renal involvement as well as bladder involvement.

Sanatorium stay has been reduced by one-fourth to one-half that experienced generally prior to this investigation. The majority of patients discharged have resumed active roles in industry and half of them continued to take diasone at work. Thus hospital dollars have been saved and beds released for others. Post sanatorium follow-up has as yet been very short, too short in most cases. However, of the patients discharged as arrested, and those who have apparently experienced maximum benefit, following diasone administration, less than 2 per cent have had re-activation of their lesions.

The administration of diasone to patients afflicted with clinically active tuberculosis has proven to be an intriguing and stimulating investigation. The whole hearted cooperation of my director of nurses (Lucille Majors, R.N.), and her staff, in administering the compound and recording data; the interest and diligence displayed by my secretary and laboratory workers (Helen Olson, Edna Kotilinek and Jean Powers), in correlating data and completing exhaustive laboratory and x-ray studies; the willing-

ness of patients to be "test animals"—all these have made continuation of this study possible.

CONCLUSION

It is my impression, now, reinforced by personal reports from other observers (unpublished data), that diasone and two other sulfone derivatives, provide us with an invaluable adjunct to conventional tuberculosis therapy. The experiences of yesterday and today will lead us to new and better derivatives, to new groups of compounds or to improved methods of administration which will in turn enhance our ability to conquer tuberculosis.

CONCLUSION

Mi opinión actual, apoyada en comunicaciones personales de otros observadores (datos inéditos), es que la diasone y dos otros derivados de los sulfones nos suministran un auxiliar inestimable a la terapia convencional de la tuberculosis. La experiencia pasada y presente nos conducirá a nuevos y mejores derivados, a nuevos grupos de compuestos o a mejores métodos de administración, los que a su turno acrecentarán nuestra habilidad para conquistar la tuberculosis.

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Indications for Collapse Therapy

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The indications for collapse therapy in the treatment of tuberculosis, simply stated, are—an active pulmonary lesion. Collapse therapy has come to the front as the most effective treatment of pulmonary tuberculosis and ahead of the older measures of rest, fresh air, diet, and climatic change. There is little difference of opinion about the effectiveness of collapse therapy as determined by clinical observation, but a satisfactory explanation of the "why's and wherefore's" of these benefits is not easy.

The theory that the added rest is the important factor has little to appeal to me. Cavity closure is unquestionably important. Changes in circulation and lymphatic drainage in the collapsed lung may have something to do with the benefit. However, the theory as first propounded by the late Dr. Breidenbach, of Dayton, and stressed by the late Paul Coryllos, of New York, that a relatively anaerobic condition is present in the collapsed lung which is unfavorable to the development of the tubercle bacillus, which is an aerobe, is the theory that most reasonably explains the benefit of collapse treatment, in my opinion.

It is a mistake to believe that collapse treatment alone can bring about the arrest of pulmonary tuberculosis. A patient must have some resistance as evidenced by his ability to form fibrous tissue to encapsulate the tubercles and lay down calcium. In spite of adequate collapse the disease will be progressive in certain cases with spread of the disease to various parts of the body. We have no explanation for this factor of resistance, but it can be estimated to some degree by consideration of the clinical manifestations and the study of the character of the pulmonary lesion on the x-ray film.

The patient with poor resistance often runs a high temperature, shows a progressive weight loss, develops early evidences of extrapulmonary complications. The pulmonary lesion is often extensive and progressive, and has a soft diffuse appearance on the x-ray film. The patient with a relatively good resistance often exhibits few evidences of toxemia, shows some tendency to improve under ordinary sanitarium regime, and x-ray studies reveal the lesions to be more discrete, with some retrogression and tendency towards fibrosis and calcification. While use of collapse is

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quite justifiable in the former group, good results cannot be anticipated. In the latter group good results will be obtained. Although it is quite true that some of this latter group may go on to spontaneous healing, the largest percentage, particularly if cavity formation is present, will slowly go on to progression and fatal termination if collapse measures are not applied.

Every case of active pulmonary tuberculosis should be considered for lung collapse. The primary tuberculosis of childhood does not respond as well as the adult type, probably because these patients have a low inherent resistance against the disease. Patients above the age of sixty often have a chronic healing tuberculosis and their lives are probably not appreciably prolonged by collapse measures. However, some of these should receive collapse, particularly from the point of view of stopping the spread of the infection to others.

Unfortunately many cases present themselves for treatment, in which their general condition and the extent of pathology prohibit the effective administration of collapse measures. If more than half of both lungs are involved it is, in general, impossible to collapse the disease effectively and still maintain normal respiratory function. Extensive extrapulmonary tuberculous lesions contraindicate collapse therapy, while minor degrees of involvement do not necessarily contraindicate such therapy. Following control of the major source of infection, tuberculous laryngitis and tuberculous enterocolitis frequently go on to healing. Serious nontuberculous complications, particularly cardiac and pulmonary diseases, may likewise prohibit application of collapse measures.

The object of all collapse measures is to bring about a purely mechanical collapse of the lung, particularly the diseased areas, and these collapse measures are effective in direct proportion to their technical efficiency. Pneumothorax is most widely used in collapse measures because of its relative safety and simplicity, and because it often brings about an effective collapse. Thoracoplasty is probably the most successful collapse measure because it achieves most nearly a perfect technical result and because this collapse is of a permanent nature.

Collapse of the Minimal Case

Increased use of various types of x-ray survey has led to the recognition of a larger number of minimal tuberculous lesions in recent years than in the past. A certain number of these may recover under rest treatment. However, as shown by Turner and Collins of the Chicago Municipal Tuberculosis Sanitarium, a considerable number of these cases will extend and become advanced cases. In minimal cases treated with pneumothorax there

were almost no evidences of extension of the disease as far as these cases had been followed. It is my opinion that active minimal lesions of pulmonary tuberculosis should be promptly subjected to collapse therapy measures and these measures kept in effect for a considerable period of time. Although there is some difference of opinion as to which collapse measure should be resorted to, I lean strongly in favor of pneumothorax if this is possible.

*Unilaterally Moderately Advanced and Far Advanced
Pulmonary Lesions*

Unilaterally moderately advanced and far advanced lesions present ideal undisputed indications for prompt collapse treatment. The impelling factor is the presence of a cavity. Pneumothorax is almost always attempted first, but if unsuccessful should be quickly supplemented by surgical measures. In certain cases with extensive lung destruction permanent surgical collapse is preferable to a pneumothorax collapse even though pneumothorax may be possible.

Bilateral Pulmonary Lesions

Twelve or fifteen years ago bilateral cases were not given benefit of collapse treatment. However, at the present time various combinations of collapse therapy measures can be employed to collapse both lungs simultaneously or alternately. It is necessary to remember that at all times adequate respiratory function must be maintained, and this means that both lungs can be collapsed only partially and that many extensive bilateral processes cannot be thoroughly collapsed, and therefore must be excluded from treatment.

Certain special indications for collapse such as pulmonary hemorrhage are frequently mentioned, but it is my opinion that the fundamental and impelling indication for collapse is merely the presence of an active pulmonary lesion. Discussion of the choice of collapse therapy measures does not seem to be within the scope of this assignment.

CONCLUSION

Collapse therapy is often dramatically effective, producing results comparable to the best recognized medical and surgical procedures, and although not free from dangers and complications should be applied promptly upon recognition of the diseased process. It will, I believe, remain the foremost therapeutic measure in the treatment of pulmonary tuberculosis until such a time

when the disease has been eradicated by the control of the source of the infection or when some agent is introduced which will specifically influence the tubercle bacillus in the body.

CONCLUSION

La colapsoterapia es frecuentemente eficaz en forma espectacular, produce resultados comparables con los más aceptados procedimientos médicos y quirúrgicos y, aunque no está exenta de peligros y complicaciones, debe aplicarse con prontitud al diagnosticarse el proceso morbozo. Soy de opinión que ella continuará siendo la terapia más importante en el tratamiento de la tuberculosis pulmonar hasta cuando se haya erradicado la enfermedad mediante el control de la fuente de infección, o hasta cuando se introduzca algún agente que ejerza una influencia específica sobre el bacilo tuberculoso en el cuerpo.

Recent Advances in Bronchoscopic Technic*

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The brilliant advances of thoracic surgery in recent years have presented a challenge to bronchoscopists. Greater accuracy and detail of information, segmental localization of lesions, and endoscopic assistance in surgical procedures indicate the trend of endoscopic needs. This has resulted in improvements in bronchoscopic instrumentarium and technic which make it possible to obtain the data requested in an increasingly higher percentage of cases.

Of primary importance is the recognition and universal acceptance of the segmental division of the lungs, with the corresponding branch bronchi leading to each. The use of a standard terminology, such as that suggested by Jackson and Huber,¹ by both the surgeons and bronchoscopists aids greatly in mutual discussions and descriptions of findings.

Instrumentarium: One of the most important improvements in instrumentarium is the Negus² bronchoscope which uses a combined proximal and distal lighting system to provide the advantages of both types of lighting in a single instrument. The advantage of proximal lighting is that the bronchus far ahead of the bronchoscope is always well illuminated; the instrument with this lighting system is an excellent instrument for bronchoscopic diagnostic problems. Its disadvantage, eliminated through the use of distal lighting, is due to its weight and to the fact that the introduction of forceps or aspirator immediately places the field in shadow. By combining the two lighting systems, Negus has preserved the advantages of both; in this instrument the proximal light has been made small enough to add little weight to the instrument and thus it permits almost the same ease of manipulation so advantageous in the Chevalier Jackson bronchoscopes.

Two new infant bronchoscopes^{3,4} have been added to the bronchoscopic instrumentarium which facilitate bronchoscopic examinations in the newborn infant. These utilize extremely small lamps and light carriers and provide a lumen adequate for examination of the tiny trachea and bronchi of infants.

Other improvements in instrumentarium have been designed

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to facilitate the removal of tissue from suspected pulmonary neoplasms and to permit inspection of otherwise bronchoscopically-inaccessible bronchi. The retrograde telescopes⁵ providing visualization of the upper lobe bronchi are instruments in the latter category. These have their own source of illumination and with a retrograde lens give a satisfactory view of the principal branches of the upper lobe bronchi. The telescope may be inserted into any of the bronchoscopes ordinarily used for adults. New forceps have been added to bronchoscopic instrumentarium and former types have been changed to meet certain specific biopsy problems. The delicate forceps used for removing small ball-bearings from the bronchi serves most adequately for teasing tissue from a tumor rather than biting it off as does the more routinely used punch forceps.⁶ While the use of this forceps for obtaining tissue for biopsy was suggested many years ago, it is by no means universally used and since it is of such great value for this procedure it is mentioned here again. Roberts⁷ suggested elongating the laryngeal cup forceps to bronchoscopic length, and this has adequately filled the requirement of a side-biting forceps. These two forceps are the most useful of all bronchoscopic biopsy forceps. Stitt⁸ has developed a curved flexible upper lobe forceps that may be used to remove tissue 1 to 2 cm. inside the orifices of the upper lobes. The guidance of these procedures is facilitated, of course, by the bi-plane fluoroscope, an advance in bronchoscopic technic that is not new in foreign body work but which has been utilized only rarely as an aid to other bronchoscopic procedures.

Bronchoscopic cinematography⁹ has been developed in recent years and represents an advance in teaching as well as in recording living bronchial pathology. The exceptional visualization obtained through the photographic bronchoscope suggests that improvements in the design of bronchoscopes and lighting systems have by no means reached their end.

Anesthesia: Satisfactory anesthesia is one of the most important factors in any bronchoscopic procedure. No single agent is adaptable to all cases. Consequently, each new agent receives many trials, and upon individual successes or failures it may be broadly acclaimed or condemned. Thus intravenous barbiturates were at first briefly considered the final answer to endoscopic anesthetic problems. Almost immediately, however, the contra-indications became apparent as respiratory spasm, induced as the tube touched the larynx, was found to be an alarming side effect. In some instances in which a general anesthetic is desired, an intravenous barbiturate may be still employed provided an adequate local anesthetic is administered first. This combination must be used

with caution but, with the maintenance of an adequate airway by the bronchoscope itself, can be very satisfactorily controlled. Curare is another new agent whose use in addition to local anesthesia is of advantage in unusually difficult cases.¹⁰ It affords relaxation but has no actual anesthetic effect and consequently may be used only in conjunction with thorough local anesthesia.

Technic: A significant change in bronchoscopic technic which has become routine in many clinics is the introduction of the Jackson-type bronchoscope directly into the trachea without first exposing the larynx with the laryngoscope.¹¹ The primary purpose of the laryngoscopic exposure prior to the insertion of the bronchoscope was to permit the introduction of the sterile bronchoscope directly into the trachea without contamination by mouth secretions. Of secondary importance is the fact that laryngoscopic exposure of the larynx is easier than the search for the larynx with the bronchoscope because the laryngoscope affords a very much larger field to visualize landmarks as the introduction of the tube proceeds. This advantage is nullified if the endoscopist has had sufficient training to make this wide exposure unnecessary.

Therapy: From the standpoint of therapy the principal advances in bronchoscopy have been the rather wide-spread use of chemotherapeutic agents intrabronchially. Some clinics have reported considerable success through the intrabronchial insufflation of the sulfonamides, while others have warned against their use. Apparently, however, the intrabronchial concentration of the drug can be maintained on a higher and steadier level by oral administration than by bronchoscopic administration. The disadvantage of the powder becoming caked in the bronchus by intrabronchial insufflation must likewise be borne in mind. Penicillin, intrabronchially, on the other hand, seems to have a greater effect than the sulfa drugs, but an evaluation of the various methods of its administration is still being carried out.

SUMMARY

Recent advances in bronchoscopy consist of new equipment, methods of anesthesia and therapeutic procedures. Outstanding in new equipment are the combined distally and proximally illuminated bronchoscopes, new biopsy forceps, retrograde bronchoscopic telescopes for upper lobe examination, smaller infant bronchoscopes for examining the bronchi of the newborn, and equipment for bronchoscopic cinematography. In anesthesia the use of curare has proved of great assistance in certain difficult cases. The elimination of the laryngoscope in the standard bronchoscopic procedure further facilitates bronchoscopic technic. Ther-

apeutically the use of the sulfa drugs and penicillin intrabronchially has proved of great value and has opened a new field for research. The use of a standard terminology such as that recently suggested by Jackson to correlate the segmental divisions of the lung with their respective branch bronchi has been of great assistance in discussions between surgeons, internists and bronchoscopists.

RESUMEN

Los recientes avances en la broncoscopia comprenden nuevos aparatos, métodos de anestesia y procedimientos terapéuticos. Entre los nuevos aparatos se destacan los broncoscopios que combinan la iluminación próxima y la distante, nuevas pinzas para biopsias, telescopios broncoscópicos retrógrados para el examen del lóbulo superior, broncoscopios más pequeños para examinar los bronquios de los recién nacidos y equipo para la cinematografía broncoscópica. El uso de curare en la anestesia ha resultado de gran ayuda en ciertos casos difíciles. La eliminación del laringoscopio en el procedimiento broncoscópico corriente facilita aún más la técnica broncoscópica. En la terapéutica, el uso intrabronquial de los sulfanilamidos y de la penicilina ha resultado muy valioso y ha abierto un nuevo campo de investigación. El uso de una terminología uniforme, como la que recientemente ha propuesto Jackson para poner en correlación las divisiones segmentarias del pulmón con sus respectivas ramas bronquiales, ha sido muy útil en discusiones entre cirujanos, internistas y broncoscopistas.

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The Treatment of Bronchiectasis

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Discussions about bronchiectasis usually revolve about three aspects: 1) pathogenesis, 2) pathology and clinical picture, and 3) therapy. Because these three have been so frequently associated, it is difficult to treat one aspect of the problem without bringing the other two into the discussion.

The question of whether bronchiectasis represents a congenital or acquired disease has been discussed many times. It is now pretty generally agreed that some types bear all the criteria of congenital lesions whereas others are certainly the result of known etiological factors. Cystic bronchiectasis, or the so-called cystic disease of the lung, would fall into the first group, that of the congenital malformation probably caused by a defect in the embryonic development associated with excessive growth of the bronchial ramifications and the production of large cyst-like spaces as soon as air is admitted into the lung.

In the second group would fall the saccular and cylindrical bronchiectasis. The pathogenesis of this acquired bronchiectasis is a complex made up of partial obstruction of the bronchus, infection of the bronchial wall, and cough. This was discussed by Coryllos and shown experimentally by Weinberg and further proven by the frequent association of atelectasis and bronchiectasis as discussed by Anspach, Richards, Kleb, and others. The sequence of events would most likely follow this pattern—a partial obstruction of a bronchus caused by a foreign body, tumor, bronchial secretion, spasm, or a combination of these factors associated with or caused by infection of the mucous membrane and bronchial wall distal to the obstruction and associated with or causing acute or chronic spasmodic cough. This group of circumstances makes possible a constant infection in the bronchus, and subsequently in the lung parenchyma associated with that bronchus.

Marked changes in pressure occur due to the cough, followed by eventual distention and breaking down of the walls of the bronchi because of this infection and pressure, with atelectatic and fibrotic areas replacing the normal architecture of the lung parenchyma. If this process is acute the changes are marked and rapid, yielding the saccular type of bronchiectatic disease.

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In a slowly developing lesion over a long period of years, the effect is more diffuse and the type of bronchiectasis cylindrical. Thus are produced the permanent and irreversible anatomical changes which represent the pathological entity of bronchiectasis.

On this basis it is customary to remark that so long as this lesion remains, the patient will suffer from cough with profuse and foul expectoration, frequent and recurring pneumonic infections and dangers of hemorrhage, amyloidosis, and metastatic spread. It is for this reason that surgery is so often recommended as the only method of producing an adequate cure.

Arising out of thoracic surgery itself has come a new medical concept of the clinical problem of bronchiectasis. With the popularizing of thoracoplasty in the treatment of tuberculosis it was noted that all patients showed a rather marked degree of saccular and cylindrical bronchiectasis in the collapsed lung after surgery. On x-ray examination, particularly with the use of contrast substance, this extreme pathology made some people predict serious clinical consequences of this operation. However, it was pointed out by Ornstein that despite this x-ray picture and despite the unquestioned presence of the pathological entity of bronchiectasis these patients did not show the clinical picture of that disease. In fact, the typical signs of cough, purulent and foul expectoration, and frequent recurring pneumonic disease were not seen in these post-thoracoplasty patients. Ornstein stated that the lack of infection plus the adequacy of drainage was responsible for this situation, and furthermore that bronchiectasis as a disease entity required inadequate drainage and the presence of infection

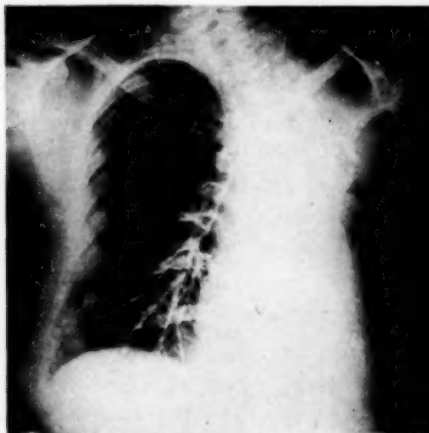


Fig. 1, Case 1



Fig. 2, Case 1

Fig. 1, Case 1: R. O. Bronchography done on patient 15 years following left thoracoplasty. Saccular areas of bronchiectasis are observed in the collapsed lung.—Fig. 2, Case 1: R. O. Lateral x-ray showing saccular bronchiectasis existing in collapsed lung following thoracoplasty.

in addition to anatomical changes. All of us who have observed a large number of post-thoracoplasty patients have had similar experience and are well acquainted with the great difference between the anatomical picture and the condition of the patient. A typical case is the following (Figs. 1 and 2):

Case 1: R. O. This is a 33 year old female who had a thoracoplasty in three stages in 1930 for an extensive, far advanced tuberculosis. She made an uneventful recovery and has been well ever since. On investigation she and her family report that her colds are very infrequent and that otherwise she has neither cough nor expectoration. Bronchography, however, shows an extensive and marked bronchiectasis in the collapsed lung.

In the light of this finding, certain other information, which has also been common knowledge, takes on a new and added importance. Upper lobe bronchiectasis, cystic and saccular in nature, whether it be congenital, acquired in early infancy, secondary to tuberculosis, or other upper lobe atelectasis, seldom causes much trouble. In fact, this type of disease may exist throughout a patient's life and be picked up on routine x-ray or during the course of an examination for some other condition. It is not uncommon for such upper lobe bronchiectasis to be mistakenly diagnosed as tuberculosis, largely because of the lack of symptoms. The reason for this lies in the good drainage which the upper lobes possess, and in the fact that this is so often a cystic type of disease with little or no obstruction to secretion. Such a situation is demonstrated by the following:

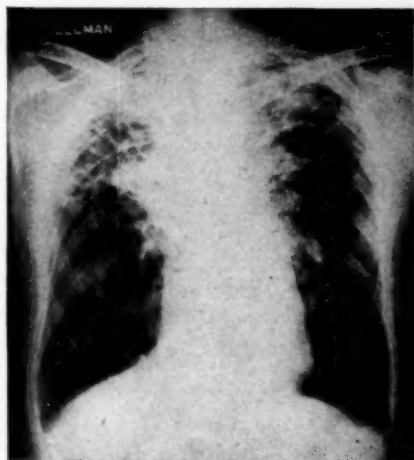


Fig. 3, Case 2

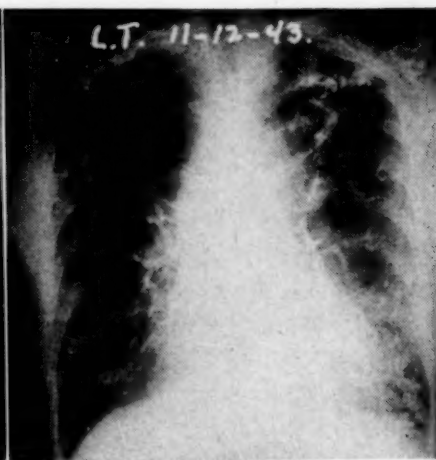


Fig. 4, Case 3

Fig. 3, Case 2: C. H. Cystic bronchiectasis, probably congenital in nature, which has never produced symptoms. This patient was mistakenly diagnosed as tuberculous.—*Fig. 4, Case 3:* L. T. Bronchography of left apical bronchiectatic lesion known for 20 years. Cylindrical bronchiectasis of left base is recent in origin and caused the symptoms as reported.

Case 2: C. H. A 52 year old white male who was x-rayed as a contact case. The x-ray shows a very extensive right upper lobe bronchiectasis with neither cough nor expectoration or other symptoms. This patient has been followed for some years in a tuberculosis clinic because of these shadows (Fig. 3).

Case 3: L. T. This was a patient of 59 years with severe cough and expectoration. Examination showed the marked cystic bronchiectasis of the upper lobe which she declared was first diagnosed some twenty years earlier and thought to be tuberculous at the time, but she insisted that her cough and expectoration were only of two years duration. Bronchography showed in addition to this upper lobe lesion, a mild cylindrical lesion in the lower from which arose the symptom complex that brought her to the hospital (Fig. 4).

The marked difference between the upper lobe bronchiectasis and lower lobe bronchiectasis in the same patient is an indication of the importance of adequate drainage in this disease. The fact that bronchial obstruction is such a regular occurrence in the production of this disease would suggest its elimination as essential to the cure. Bronchogenic carcinoma, foreign body, thick secretion of whooping cough, asthma, and some bronchopneumonias are all frequently followed by the development of bronchiectasis. The only factor that all these conditions have in common is bronchial obstruction. It is very logical, therefore, that no projected therapy will be of very great value unless it removes this obstruction, no matter what else it may do. The most definite method of performing this and removing the disease as well is,

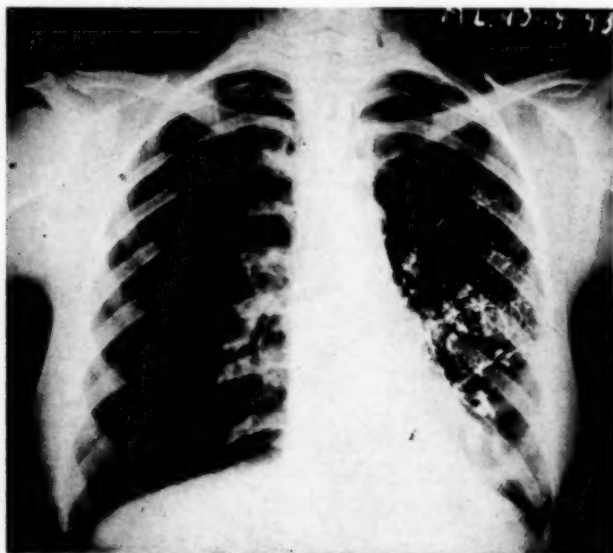


Fig. 5, Case 4

Fig. 5, Case 4: M. L. A 21 year old girl with left lower lobe saccular bronchiectasis.

of course, surgical excision of the affected portion of the lung. This is of great value when bronchiectasis is limited to a lobe or to one lung, but it accomplishes very little when the lesion exists widespread or involves more pulmonary tissue than can be safely removed. The following cases show the differences in the various results from surgery.

Case 4: M. L. A 21 year old girl, treated for sinusitis and post-nasal drip by various doctors in various clinics for 19 months. She was examined and found to have extensive saccular bronchiectasis of the left lower lobe. She had copious, foul, purulent expectoration. The remainder of the lung was found to be free from bronchiectasis. A left lower lobectomy was done, and her symptoms cleared up almost immediately following the operation (Figs. 5, 6, 7).

Case 5: A. P. This patient, a 37 year old male, showed a saccular bronchiectasis of the left lower lobe and a small amount of a similar lesion in the upper lobe and the right lower lobe. Because of the extensive lesion in the left lower lobe, excision of that lobe was performed. The patient made a normal recovery; however, his cough and expectoration continued, and now, some ten years later, shows progression with marked and extensive sacculatation of the left upper, right lower, and mid lobes (Fig. 8).

It is quite obvious that this disease like any other irreversible, purulent condition is a definite indication for surgical therapy, but it is just as obvious that this therapy cannot be done in a majority of the cases. Other procedures in addition to surgical excision, such as thoracoplasty, pneumothorax, phrenicectomy have the very definite disadvantage and contraindication of interfering with the drainage of the bronchi. These procedures are only successful in bronchiectasis that does not require treatment.

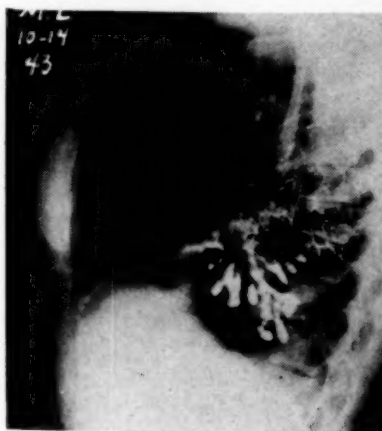


Fig. 6, Case 4

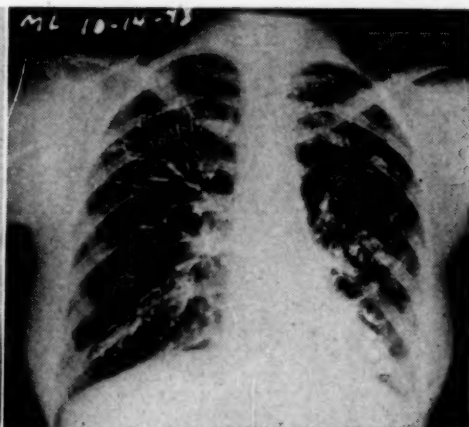


Fig. 7, Case 4

Fig. 6, Case 4: M. L. Lateral view showing extensive saccular dilatation.—
Fig. 7, Case 4: M. L. Complete bronchography showing absence of bronchiectatic changes in other bronchi of both lungs.

It remains, therefore, to apply some medical management to the vast majority of bronchiectasis. The approach depends upon the realization that we shall not attempt to alter the anatomical structure, but that our efforts shall be devoted to the establishing of drainage, removal of infection, and to regaining as much of the normal physiology of the bronchi as is possible.

Drainage is secured by posturing of the patient when no definite obstruction exists. Postural drainage means that position in which the areas of the bronchi involved are most successfully drained. Sometimes this is obtained by hanging a patient upside down; however, there are other occasions when this particular position does not produce the desired effect due to the topography of the infected region. In some cases it is necessary for the patient to lie on his left side, or his right side, or his back at various angles of inclination. In fact, as we have seen before, the upper lobe drains best in the upright position. Whatever position is adequate must be used, and such drainage should be done at that time when the secretion has collected most—on awakening in the morning and before retiring at night as well as late in the afternoon and at any other time when it is indicated. This should be done for a minimum period of 15 minutes at a time. It is likewise advisable to use some substance to decrease the viscosity of the sputum and to enable it to flow more freely and thus to drain

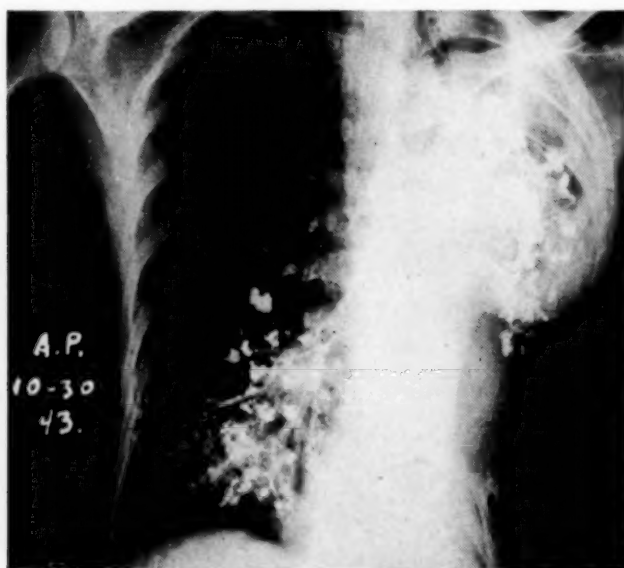


Fig. 8, Case 5

Fig. 8, Case 5: A. P. Extensive saccular bronchiectasis in left upper and right lower lobe several years after left lower lobectomy for similar lesion.

more rapidly. Ammonium chloride is such a medication. In cases of anaerobic infection the inhalation of a high concentration of oxygen is of definite value because of its inhibitory effect upon anaerobic bacteria. The results of such therapy may be illustrated by the following case:

Case 6: H. C. A 54 year old bricklayer suffered from cough with profuse expectoration, recurrent respiratory infection and severe dyspnea that had rendered him completely incapacitated for a period of four years. His x-ray (Figs 9 and 10), showed annular shadows suspicious of cystic bronchiectasis in the left mid-lung field with marked emphysema below. Bronchography bore out the impression of a cystic area, but showed in addition marked cylindrical dilation in both lower lobes. He was placed on postural drainage with medication for cough and expectoration. At the end of one week he reported that he was breathing more easily, and as he continued this simple therapy, his cough decreased and finally disappeared, and he found himself once again able to walk and climb stairs without any marked dyspnea. After several months of constant care and general rebuilding he was able to return to work and now works full time at a semi-sedentary occupation.

Bronchoscopy is frequently of value in helping to produce drainage; however, the bronchoscope can seldom reach the level where the pathology really exists. The indication for bronchoscopy exists, nevertheless. In the younger age levels the question of foreign body must be considered and in the older group, tumor must be ruled out. The condition of the bronchial mucosa will frequently give an indication of the chronic changes which have taken place

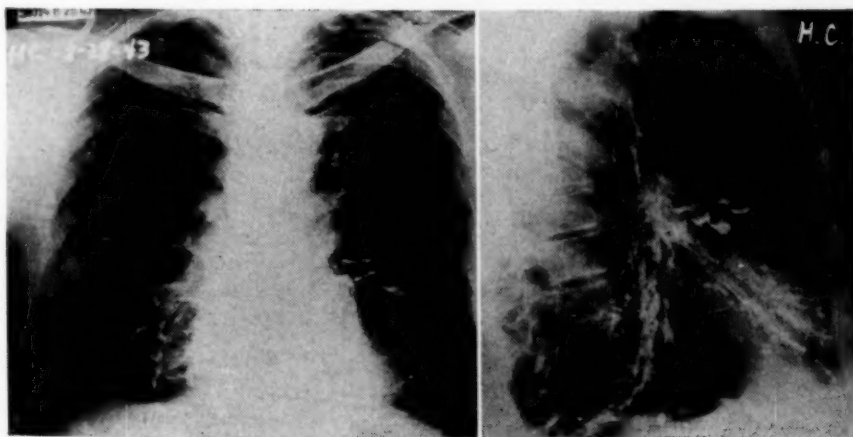


Fig. 9, Case 6

Fig. 10, Case 6

Fig. 9, Case 6: H. C. Areas of cystic bronchiectasis in left mid-lung field and cystic bronchiectasis behind heart shadows at both bases.—*Fig. 10, Case 6:* H. C. Lateral x-ray demonstrating cystic bronchiectasis of lower portion of the left upper lobe and cylindrical bronchiectasis of left lower and right mid-lung.

and serve as a guide to the length of the treatment period required before any marked change would be expected.

Radiation was suggested for bronchiectasis by Berck in 1934 and has become quite a vogue in certain quarters. This is capable of producing considerable relief in certain types of bronchiectasis particularly where chronic infection will respond to radiation, but in a great many cases it is at best an adjunct to other medical therapy.

The appearance of the sulfonamides and other chemotherapeutic agents opened new possibilities in treatment; however, the use of the sulfonamides by mouth has been in general disappointing, and the use by injection at best uneven. We need not look far for the reason for this. The different types of organisms frequently include bacteria not sensitive to sulfonamides; in such cases we would not expect to have good results. Secondly, in a great many well-established cases of bronchiectasis the blood supply at the site of infection is extremely small, and consequently, the presence of a drug in the blood does not necessarily imply that it is present at the site of infection. The very chronicity of these lesions has made sulfonamides dangerous to use in bronchiectasis. Penicillin appears to be of very much greater value, and it remains to be seen just how far its application will go. In certain types of cases a marked relief is obtained, and in others very little effect of any sort is noted. This is again dependent upon the type of bacteria present and in the amount of circulation around the area. Direct inhalation of penicillin appears much more promising.

SUMMARY

To summarize the treatment of bronchiectasis we may say that:

1. The anatomical changes seen on the x-ray or on the post mortem table are not the most important factors. Inadequate drainage and persistent infection are necessary for the clinical entity of bronchiectasis.
2. Upper lobe lesions and other types with adequate drainage seldom require much or any therapy.
3. Treatment may be surgical with removal of the diseased area only when it is sufficiently limited to make such total removal possible.
4. Medical treatment is needed for the majority of cases. This is designed to create drainage and remove infection.
5. Chemotherapy is not as yet developed into a definite weapon against this disease.

RESUMEN

Para resumir el tratamiento de la bronquiectasia podemos decir que:

1. Las alteraciones anatómicas que se ven en la radiografía o en la mesa de autopsias no son los factores más importantes. El drenaje inadecuado y la infección persistente son esenciales para producir la entidad clínica de la bronquiectasia.

2. Las lesiones de los lóbulos superiores, y otros tipos con drenaje adecuado, sólo raramente requieren mucha terapia o, en verdad, terapia alguna.

3. Puede emplearse el tratamiento quirúrgico de extirpar la zona afectada, solamente cuando está lo suficiente limitada para permitir la excisión total.

4. En la mayoría de los casos se necesita el tratamiento médico, que tiene por objeto producir drenaje y extirpar la infección.

5. La quimioterapia no es todavía un arma positiva contra esta enfermedad.

Surgical Procedures in Non-Tuberculous Diseases

RALPH B. BETTMAN, M.D., F.A.C.S.*

Chicago, Illinois

A lecture such as this must confine itself to basic facts because of sheer inability to pack more than that into the allotted time. An audience such as this is as well acquainted with the basic facts as I am so you can see the dilemma I am in. I will compromise, therefore, with the title and I will discuss with you the subject of the importance of making the physicians in general in this country understand that intrathoracic conditions which require surgery are as amenable to surgery as if these conditions were in other parts of the body.

In the first place there seems to be a fixed opinion that intrathoracic organs are inaccessible. The average physician still seems to think that an intercostal incision or a rib resection is a formidable procedure and gives but poor access. We must try to make him realize that rib resection is actually as feasible for the chest as any of a number of abdominal wall incisions is for the peritoneal cavity. We must make him realize that not only can we get as good an exposure of the diseased organs as if it were in the abdomen, but often a much better exposure because we do not have the problem of packing off intestines.

Furthermore we must make him realize that the healthy pleura is as resistant to infections as the peritoneum. In conjunction with this last statement I wish to say that from my short experience with Penicillin we are going to find it remarkably helpful in preventing empyema following thoracic operations. The tremendous pleural reactions, sero-sanguineous effusions, which we see after topical application of the sulfas seems to be absent.

Finally, regarding incisions, we must convince the physicians in general that a rib resection is not necessarily deforming nor disabling.

Regarding the understanding of the physiology of respiration we in this group have a definite obligation to act as instructors. We must make physicians realize that in order to maintain necessary respiratory function during operation we need no apparatus other than the gas mask and gas machine which is used today in almost any hospital for almost any operation. Of course you and I and anyone doing chest surgery would prefer a specially

*Attending Surgeon, Michael Reese Hospital. Assistant Professor of Clinical Surgery, University of Illinois (Rush).

trained anaesthetist; of course in certain cases tracheal intubation is desirable; and of course high pressures, etc., should be avoided, but many other operative procedures require equally specialized techniques, for example, goitres, long intra-abdominal procedures in the presence of heart disease, to mention only a few. All of us who have done chest surgery have been called upon to do so now and then in hospitals where the anaesthetist has never before given an anaesthesia in the presence of an open chest and as far as my own experience is concerned have gotten along very nicely with the apparatus and personnel at hand. We must make the general physician understand that we are able to cope with the anaesthesia, with the wide open thoracotomy during operation and with the residual pneumothorax or hydrothorax (if any) after operation without interfering with the patient's ability to absorb oxygen and excrete carbon dioxide.

Furthermore we must teach the profession in general that nature has been as profligate with pulmonary tissue as with, let's say, kidney tissue and that an individual is as capable of continuing life with the loss of half of one as half of the other. Many physicians seem to think that the ligating of either the right or left pulmonary artery throws an insurmountable burden on the heart. That this is not so has of course been proven over and over again clinically and before that experimentally.

The importance, size and close relative position of the anatomical structures which the surgeon has to deal with when operating in the mediastinum, on the esophagus or in the hilus of the lung seems to throw abject fear into the hearts of the uninitiated. This perhaps is all to the good in keeping the pseudo surgeon away. I am reminded of a time when I was dissecting a mediastinal tumor and looked up at one of the internes who was holding the lung out of the way. His forehead was covered with beads of perspiration. I thought he might be sick and asked him if he wanted to leave the table. "No," he said, "I am alright," but he continued "we sure are working where there is a powerful lot of living."

A knowledge of local anatomy is necessary for any surgery. A knowledge of local anatomy is what protects the ureter in the resection of a carcinoma of the caecum, or the common duct in a complicated gall bladder operation. The brachial plexus seemed to me, as a student, the most complicated structure imaginable. After I had demonstrated it many times, as an instructor, it seemed simple. The mere fact that the vessels in the mediastinum are large and important means only that like any other tissues you have to know where and what they are and handle them gently.

Let us just hurriedly run over a few intrathoracic conditions which cry for surgical intervention and which are denied this intervention because of lack of knowledge or of prejudice—a redundant figure of speech as far as I am concerned.

Here is a picture of a diaphragmatic hernia—a hiatus hernia. This man has had the usual symptoms for years. Six months before I saw him he nearly died from a gastric hemorrhage. The physician who saw him made the correct diagnosis and explained very learnedly to his family that the ulcer from which his bleeding came was a not too unusual a complication of esophageal hiatus hernia but he added, "The danger from an operation is so great that I would not be operated upon myself and, therefore, would not so advise you to." The only reason I finally did get the patient was that he was brought into Michael Reese Hospital moribund from a second hemorrhage and the interne, who was not as shackled with prejudices to thoracic operations as the gastroenterologist, sent him up to my service. He was operated upon sometime later—after several blood transfusions—and made an uneventful recovery.

Another not too infrequent condition in point is the following: Here is a woman who has had dysphagia for some time and a diagnosis of a tumor of the lower end of the esophagus and upper end of the stomach. Her internist said to her that if the lesion were any place else in the intestinal tract except where it was he would certainly advise an operation for removal of the tumor.

Her son was a medical student who had been on my service as a clinical clerk and brought his mother to me. We resected a portion of the esophagus and cardia containing a well localized lesion through an transthoracic incision anastomosed the esophagus to the remaining stomach. The patient made an uneventful convalescence and now, about two years after operation, is in good health and has gained back all the weight she had lost. I, of course, cannot promise that she will not have a recurrence but at least she is symptom-free at present.

The next case demonstrates a type of medical ignorance of which I hope we will see less and less: A man in his fifties started off with a cough, continuous and difficult to control. The physician had an x-ray made which showed a lesion near the hilus of the left lung which the roentgenologist diagnosed as probably malignant. The patient was sent to a bronchoscopist who could see nothing in the bronchus but who told the physician that that fact did not rule out a malignancy. The patient was sent to Arizona for a few months and then treated with x-rays, sedatives, etc., until a marked dyspnea developed and signs of a massive effusion were present. He was tapped and tumor cells found in the fluid obtained. Then

when he was obviously inoperable the patient was sent to me. At the time of his first x-ray a pneumonectomy might have been feasible. When we questioned the physician about the delay he said, "If this suspicious lesion had been in the abdomen I would have recommended an exploratory laparotomy but I thought the danger of an exploratory thoracotomy would be too great."

The next two cases, almost identical in signs and symptoms demonstrate a more logical and rational approach to the subject of intra-thoracic tumors. In the first instance the exploratory thoracotomy did no harm, in the second it was life saving.

The first case, that of a middle aged woman, shows this large well defined mass in the right chest. It was small two years ago and has grown to this present size. There are no symptoms except for an occasional cough which sometimes is "brassy". The patient was being treated by a member of this society. Because of four plus Wasserman and Kahn reactions and a definite history of lues the diagnosis of aneurism had been made. When in spite of good anti-leutic treatment the mass continued to grow, the physician decided that an exploratory thoracotomy was indicated, this especially in view of the fact that the x-ray picture was not typical. I will admit that I thought that the diagnosis of a mediastinal tumor was more likely than aneurism. The chest was opened through an anterior incision and the large mass was easily visualized, and when the hand was placed around it, it was immediately recognized that the pulsation was not transmitted but was expansile. A small needle was inserted into the mass and the diagnosis of aneurism of the ascending aorta was confirmed. The chest was closed and the patient was returned to her room. A week later the patient left the hospital after a convalescence as benign as one could hope for, after any exploratory laparotomy.

A few weeks later another case presented itself with almost the same x-ray picture and the same symptoms. This time the diagnosis of mediastinal neoplasm was the correct one—a teratoma. The tumor was easily removed and with it a condition which was threatening the life of the patient.

(Dr. Bettman demonstrated several other types of non-inflammatory, non-tuberculous intrathoracic lesions which are amenable to surgery. These are omitted so as not to prolong the article).

SUMMARY

Undoubtedly the greatest difficulty which confronts the patient with a surgical condition of the chest today is the ignorance of the profession as a whole as to what surgery can accomplish, and the reluctance of the great mass of physicians to appreciate this.

I hope that I may outlive the day when a medical man will come to me and say: "Doctor, I have a patient who I think has carcinoma of the lung, but I have advised against operation because the mortality is too high." When I ask such a man whether or not his medical mortality of 100 per cent isn't the acme of high mortality, he places the responsibility in the lap of the gods and complacently absolves himself of all responsibility. I have shown you roentgenograms this morning, and described histories of patients with pathological conditions of the lungs, bronchi, mediastinum, esophagus and pleura—that is the various component parts of the chest except the heart, which, for lack of time, I omitted. I have shown you that in certain instances we can make a definite diagnosis early and that in certain other instances it is impossible to make a definite diagnosis early, just as it is impossible to make a definite diagnosis of a breast tumor without a frozen section, or at times to distinguish between a common duct stone or an early carcinoma of the head of the pancreas without an exploratory laparotomy; and I hope you all leave here with the understanding that an exploratory thoracotomy is just as simple as an exploratory laparotomy, and as necessary. As a surgeon I wish to tell you that we have the anaesthetic facilities for wide open thoracotomy, that we have the techniques well developed for attacking pathological conditions found in the various components of the chest and that we know from the point of view of physiology that it is as possible to deprive the body of certain amounts of thoracic viscera as it is of certain amounts of abdominal viscera. Our results in surgery of the chest as in surgery of the abdomen, everything else being equal, vary with the type of disease and in most cases with the promptness with which the patient is brought to surgery. For example, the reports of cures from cancer of the lung after pneumonectomy compare favorably with the reports of cures from cancer of the stomach after gastrectomy.

In short, Gentlemen, we should be able to give patients with certain lesions of the chest the same break, the same chance that they would have if their lesions were situated in the abdomen. But this is far from the case. There remains among physicians a tremendous amount of educational work still to be done, before this can be accomplished. You Gentlemen, the physicians in this society, must be the apostles.

You who have kept abreast of the development of therapeutics of chest diseases and therefore know what surgery has to offer, must help us surgeons in teaching our fellow physicians who have not kept pace with the growth of medical knowledge in this direction.

RESUMEN

Es indudable que la mayor dificultad que confronta hoy el paciente con un estado quirúrgico del tórax es la ignorancia de la profesión en general de lo que puede realizar la cirugía, y la resistencia de parte de la mayoría de los médicos de darse cuenta de ello. Tengo esperanzas de vivir hasta el día en que me venga a ver un médico y no me diga: "Doctor, tengo un paciente que yo creo que tiene carcinoma del pulmón, pero he aconsejado que no se opere porque la mortalidad operatoria es demasiado crecida." Cuando le pregunto a tales médicos si no es cierto que su mortalidad médica del 100 por ciento es el colmo de la mortalidad elevada, ellos le hechan la culpa al Destino y complacientemente se absuelven de toda responsabilidad. Esta mañana les he mostrado roentgenogramas y les he relatado las historias de pacientes con estados patológicos de los pulmones, bronquios, mediastino, esófago y pleura, es decir, de las varias partes componentes del tórax con la excepción del corazón que, por falta de tiempo, he omitido. Les he demostrado que en ciertos casos podemos hacer tempranamente un diagnóstico bien definido y que en otros casos es imposible hacer temprano un diagnóstico bien definido, lo mismo que es imposible hacer el diagnóstico bien definido de un tumor del seno sin un corte congelado o, a veces, distinguir entre un cálculo del conducto biliar común y un carcinoma precoz de la cabeza del páncreas sin una laparotomía exploratoria; y abrigo la esperanza de que, antes de irse, todos ustedes entiendan que una toracotomía exploratoria es exactamente tan sencilla, y tan necesaria, como una laparotomía exploratoria. Como cirujano, quiero decirles que tenemos las facilidades anestésicas para ejecutar toracotomías abiertas de par en par, que contamos con técnicas perfeccionadas para atacar los estados patológicos que se presentan en los varios componentes del tórax y que sabemos que, desde el punto de vista fisiológico, es tan posible despojar al cuerpo de ciertas cantidades de vísceras torácicas como de ciertas cantidades de vísceras abdominales. Si todo lo demás es igual, nuestros resultados en la cirugía del tórax, como en la cirugía del abdomen, varían de acuerdo con el tipo de enfermedad y, en la mayor parte de los casos, con la prontitud con que se someta al paciente a operación. Por ejemplo, los informes de curaciones de cáncer del pulmón después de neumonectomía, se comparan favorablemente con los informes de curaciones de cáncer del estómago después de gastrectomía.

En resumen, Caballeros, deberíamos poder ofrecerles a pacientes con ciertas lesiones del tórax la misma oportunidad, la misma esperanza, que tendrían si sus lesiones estuvieran situadas en el

abdomen. Pero éste no es el caso, ni con mucho. Antes de que ésto se realice queda todavía por hacerse entre los médicos una labor educativa formidable. Ustedes, Caballeros, los médicos de esta sociedad, deben ser los apóstoles.

Ustedes que se han mantenido al corriente del desarrollo de la terapéutica de las enfermedades del tórax y que, por consiguiente, saben lo que ofrece la cirugía, deben ayudarnos a nosotros, los cirujanos, a enseñar a aquellos de nuestros colegas que no se han puesto al día del progreso de los conocimientos médicos en esta dirección.

104 South Michigan Blvd.

ELEVENTH ANNUAL MEETING

Executive Council Meeting

The members of the Executive Council of the College met at the Palmer House, Chicago, on June 16, 1945. The meeting was called to order by Dr. Jay Arthur Myers, Minneapolis, President of the College, and the following members of the Executive Council were present:

Dr. Charles M. Hendricks, El Paso, Texas
Dr. Paul H. Holinger, Chicago, Illinois
Dr. Louis Mark, Columbus, Ohio
Dr. Richard H. Overholt, Brookline, Mass.
Dr. Joseph C. Placak, Cleveland, Ohio

Major General S. U. Marietta, the seventh member of the Executive Council, was unable to attend the meeting because of military duties.

A brochure containing the reports of the Councils and Committees and the agenda for the meeting of the Board of Regents scheduled for the following day, was prepared for each member of the Executive Council and these matters were studied and discussed by the Council and recommendations made to the Board of Regents in order to expedite the business at hand.

The meeting was called to order at 2 p. m. and adjourned at 6 p. m. A dinner for the members of the Executive Council was tendered at the University Club, Chicago. Dr. Paul H. Holinger, Chicago, was in charge of the arrangements for the dinner.

Board of Regents Meeting

The Board of Regents of the College met at Chicago, Illinois, U. S. A., on June 17, 1945 to conduct the business affairs of the College. The chairmen of the College Councils and Committees were invited to come to Chicago in order to present their reports. These reports have been published in this issue of "Diseases of the Chest" and members of the College who wish to comment on any of the reports are requested to write to the chairmen of the respective Councils and Committees.

The meeting was called to order at 2:00 p. m. by Dr. Joseph C. Placak, Cleveland, Ohio, Chairman of the Board of Regents and the following Regents and guests answered present:

Dr. Andrew L. Banyai, Wauwatosa, Wisconsin
Dr. Benjamin L. Brock, Waverly Hills, Kentucky
Captain Robert E. Duncan, USN, Washington, D. C.
Dr. Edward W. Hayes, Monrovia, California
Dr. Charles M. Hendricks, El Paso, Texas
Dr. Paul H. Holinger, Chicago, Illinois
Dr. William A. Hudson, Detroit, Michigan
Dr. Minas Joannides, Chicago, Illinois
Dr. Edwin R. Levine, Chicago, Illinois
Dr. C. Howard Marcy, Pittsburgh, Pennsylvania
Dr. Louis Mark, Columbus, Ohio
Dr. Jay Arthur Myers, Minneapolis, Minnesota
Dr. William E. Ogden, Toronto, Ontario, Canada
Dr. Richard H. Overholt, Brookline, Massachusetts
Dr. J. Winthrop Peabody, Washington, D. C.
Dr. Joseph C. Placak, Cleveland, Ohio
Dr. Nelson W. Strohm, Buffalo, New York
Dr. James H. Stygall, Indianapolis, Indiana
Dr. Paul A. Turner, Louisville, Kentucky

The meeting adjourned at 5:15 p. m. and the members of the Board of Regents were guests of the Illinois Chapter of the College at a dinner given in their honor at the Stevens Hotel, Chicago, Illinois. Dr. Fred M. F. Meixner, Peoria, Illinois, President of the Illinois Chapter of the College presided at the dinner and he introduced the guests.

Report of the Secretary-Treasurer

The books of the College have been audited by the La Salle Audit Company, Chicago, Illinois and the following is abstracted from their statement.

The cash on hand was verified by actual count and by an examination of the petty cash vouchers. The organization carried one checking account at the First National Bank of Chicago, which on April 30, 1945, has the following balances:

General Fund	\$27,316.30
Life Membership Fund	1,380.00
Endowment Fund	250.00
TOTAL	\$28,946.30

The cash in bank was verified by direct communication with the First National Bank of Chicago, and by reconciling the book balance with the amount certified to by the depository. Following is a summary of cash transactions for the fiscal year ended April 30, 1945:

BALANCE MAY 1, 1944 **\$20,458.54**

RECEIPTS:

New Membership Fees and Collections Toward Fellowship	\$ 6,940.00
Dues	15,321.25

Accounts Receivable:

Advertising, Subscriptions	\$7,423.00
Less: Disc. Allowed	744.63
	6,678.37

Special Fund	1,125.00
Chapter Funds Received	403.75
Miscellaneous Income	10.02
Interest Rec'd. on Government Bonds	250.00
Life Membership Fees	1,380.00

TOTAL CASH RECEIVED **32,108.39**

TOTAL CASH AVAILABLE **\$52,566.93**

DISBURSEMENTS:

Purchase of Furniture and Fixtures	\$ 27.84
Chapter Funds Refunded	226.25
Membership Certificates	105.48
All Other Expenses	\$23,268.00
Less: Disc. Earned	6.94
	23,261.06

TOTAL CASH DISBURSEMENTS **\$23,620.63**

BALANCE APRIL 30, 1945

General Fund	\$27,316.30	
Endowment Fund	250.00	
Life Membership Fund	1,380.00	
TOTAL		\$28,946.30

The actual expenditures during the fiscal year ended April 30, 1945 were \$2,502.84 less than the budgeted expenditures. This amount was set aside as a publication fund to be expended during the coming year. The chapter fund account has been examined and it has been found that the amount due to chapters to April 30, 1945 amounts to \$337.50. Following is a summary of the changes that took place in the general fund account:

BALANCE APRIL 30, 1944	\$24,601.52	
Less: Transfer to Endowment Fund	10,000.00	\$14,601.52
Add: Net Income for Year	2,201.26	
BALANCE APRIL 30, 1945		\$16,802.78

BALANCE SHEET — APRIL 30, 1945**ASSETS****ENDOWMENT FUND:**

Cash in First National Bank of Chicago	\$ 250.00	
United States War Bonds	10,000.00	
TOTAL ENDOWMENT FUND		\$10,250.00

LIFE MEMBERSHIP FUND:

Cash in First National Bank of Chicago	\$ 1,380.00	
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GENERAL FUND:

Cash in First National Bank of Chicago	\$27,316.30	
Cash on Hand	25.00	
Accounts Receivable	166.50	
Furniture and Fixtures	1,035.32	
TOTAL GENERAL FUND		28,543.12
TOTAL ASSETS		\$40,173.12

LIABILITIES AND SURPLUS

LIABILITIES:

Collections Toward Fellowships	\$ 4,325.00
Fellowship Fees Collected (Pend. Exam.)	2,500.00
Special Fund	2,019.00
Publication Fund	2,502.84
Chapter Funds	337.50
Accrued Expenses	56.00

TOTAL LIABILITIES\$11,740.34

SURPLUS:

General Fund Surplus	16,802.78
Endowment Fund Surplus	10,250.00
Life Membership Fund Surplus	1,380.00

TOTAL LIABILITIES AND SURPLUS\$40,173.12

STATEMENT OF INCOME AND EXPENSE
YEAR ENDED APRIL 30, 1945

TOTAL INCOME	\$28,822.21
TOTAL EXPENSE	24,118.11
NET INCOME	\$ 4,704.10
Less: Provision for Publication Expenses	2,502.84
NET INCOME FOR YEAR	\$ 2,201.26

ANNUAL FINANCIAL REPORT COLLEGE CHAPTERS
REPORT FOR FISCAL YEAR ENDED APRIL 30, 1945

Chapter	Cash Receipts	Cash Disbursements	Balance on Hand
California	\$261.49	\$ 32.68	\$228.81
Illinois	98.37	7.91	90.46
Michigan	40.00	28.13	11.87
New England States	19.75		19.75
New Jersey	247.74	23.61	224.13
New York	290.00	270.00	20.00
North Midwest	33.00	8.00	25.00
Ohio	78.92	11.80	67.12
Pennsylvania	84.30	32.05	52.25
Rocky Mountain	87.70	49.34	38.36
Southern	459.82	117.86	341.96
Texas	53.00	10.80	42.20
Wisconsin	21.20	9.75	11.45
TOTALS	\$1775.29	\$601.93	\$1173.36

RESOLUTION AUTHORIZING RENTAL OF A SAFE DEPOSIT BOX

The American College of Chest Physicians has accumulated securities in the nature of War Savings Bonds, and it is anticipated that there will be other securities purchased by the American College of Chest Physicians, Inc. In order to secure the safe-keeping of these bonds and other securities belonging to the American College of Chest Physicians:

BE IT RESOLVED: That the Board of Regents meeting in annual session at Chicago, Illinois, on June 17, 1945, hereby authorize the renting of a safe deposit box in a recognized safe deposit company, and that the following officials of the College, the Secretary-Treasurer, accompanied by the Executive Secretary, have access to this box.

INVESTMENT OF LIFE MEMBERSHIP FUND

BE IT RESOLVED: That the Board of Regents of the American College of Chest Physicians meeting in annual session at Chicago, June 17, 1945 authorize the investment of all monies in the Life Membership Fund in United States Savings Bonds, Series G.

BE IT FURTHER RESOLVED: That any and all interest accrued from this investment be placed in the general fund of the College, and that the principle of this fund be kept intact.

Paul H. Holinger, M.D., Chicago, Illinois
Secretary-Treasurer.

Upon motion by Dr. Hendricks, seconded by Dr. Hayes, the report of the Secretary-Treasurer was accepted by the Board of Regents and the Resolutions authorizing the rental of a safe deposit box and the investment of Life Membership Funds were unanimously adopted.

Report of the Executive Secretary

Introduction:

Like many other organizations the College has been confronted, during these trying war years, with many difficult and complex problems. That we have progressed despite these difficulties is indeed worthy of note. The Executive Secretary of the College wishes to pay his respects, at the outset of this report, to the officials and to the other faithful workers of the College whose counsel and advice have guided him through these difficult days. Without their loyal support and advice, it could not be possible to make this report of progress.

Finances:

Five years ago this month the College opened its offices in Chicago. On June 1, 1940 there was \$3,871.25 on deposit; at the close of our fiscal year June 1, 1945, our deposits of cash and bonds rose to \$39,168.63; a net gain of \$35,297.38.

Membership:

On June 1, 1940 there were 577 members of the College. On June 6, 1945 there were 1,766 members of the College, an increase of 1,189 members. The membership of the College during the past five years has been

gradually extended into many other countries, and today it is the largest, world-wide society of qualified chest specialists.

College Chapters:

The first College chapter was organized on May 21, 1940. Since then 24 College chapters have been formed. There is now a complete network of chapters in the United States and many chapters exist in other countries. Additional chapters of the College in some of the other countries are now in the process of organization, and we hope to be able to report the formation of these chapters at an early date. The Executive Secretary of the College was pleased to have had a part in the organization of these College chapters and he has, upon invitation, attended many of the chapter meetings in this country. More recently, the Executive Secretary attended the meeting of the Union of Latin American Tuberculosis Societies at Havana, Cuba, as an official delegate of the College. The activities of the College chapters have received wide publicity in the College journal and in other medical journals throughout the world. The College chapters enjoy a prominent place in recognized medical circles and we are, of course, very proud of this achievement. All of the officials of the College chapters, past and present, are to be complimented upon this excellent accomplishment.

Boards, Councils, Committees:

As you know, the work of the College is divided among the members of the boards, councils and committees. There is an Executive Council of 7 members; a Board of Regents of 27 members; a Board of Governors of 79 members; an Editorial Board; a Board of Examiners; 6 standing councils, and 12 standing committees. The activities of these boards, councils and committees are correlated and the work is expedited through the Executive Offices of the College. Many of the reports of the boards, councils and committees are being presented to the Board of Regents here today. These reports will be published in the College journal.

Meetings:

Arrangements for all of the College meetings have been under the supervision of the Executive Secretary of the College and it is well to point out at this time that both the national and sectional meetings of the College have been growing in size and attendance each year. It is not necessary to comment on the excellence of the College meetings. The members of the College have become accustomed to expect the finest programs. This is a challenge which is going to become more difficult to fulfill as time goes on.

Publicity:

The Public Relations program of the College has been directed to the recognized medical publications. During the past year 117 items concerning College activities appeared in 75 state medical journals, 22 national medical journals, and 20 foreign medical journals.

Correspondence:

It is difficult to estimate the tremendous amount of mail which passes over the desk of the Executive Secretary of the College. Matters of great importance to the College, and some which might be considered of a trivial nature, but yet in the aggregate, is just as essential to the welfare of the organization as the most important letters. receive the

personal attention of the Executive Secretary. In addition to the large mailings of reprints and other form matters, approximately 20,000 individual pieces of outgoing mail are handled by the Executive Offices of the College during a normal 12 month period. The office staff consists of the Executive Secretary and two assistants who handle this work.

The College Journal:

The Editor-in-Chief of the journal is charged with the responsibility of accepting and editing all scientific manuscripts which are published in **DISEASES OF THE CHEST**. All of the other work entailed in publishing the journal is the responsibility of the Executive Secretary. "Diseases of the Chest," we are sure, is on a par with the finest medical journals published anywhere in the world.

We are happy to report that during the past fiscal year the advertising revenue of the journal has increased by 35 per cent and the circulation of the journal by 25 per cent.

This report would not be complete without paying tribute to the excellent cooperation between the Editor-in-chief of the journal, his splendid staff, and the Executive Offices of the College.

Conclusion:

In closing, the Executive Secretary wishes to express his appreciation and thanks to his assistants at the Executive Offices, whose loyalty and deep interest in the welfare of the College has helped to make this report possible.

The College serves as a media for cooperation and collaboration among the chest physicians of the world. Momentous opportunities await the members of the American College of Chest Physicians. The College will continue to lead and it has every reason to look ahead to still greater achievements.

Murray Kornfeld
Executive Secretary.

Dr. Mark expressed thanks to Mr. Kornfeld for his untiring efforts and made a motion for acceptance of the report, seconded by Dr. Banyai, and unanimously carried.

Report of the Membership Committee

There are 397 members of the College in the Armed services of our country, of which 304 are in the Army and 93 are in the Navy.

A resolution was adopted by the Board of Regents at the meeting held at St. Louis on November 13, 1944, recommending an amendment to the College By-Laws to change the term Associate Fellowship to Junior Fellow, and that of Associate Member to Affiliate. This amendment in accord with the College By-Laws must be voted upon at an annual meeting by the members of the College. A notice of the contemplated change in the By-Laws has been published in the College journal, *Diseases of the Chest* (Vol. XI, No. 1, Jan.-Feb., 1945).

Other recommendations submitted by the Membership Committee at the last annual meeting of the College held at Chicago, June 10, 1944 and approved by the Board of Regents have been put into effect by the present Membership Committee.

COLLEGE MEMBERSHIP

(Compiled by Countries)

United States of America 1482

United States Possessions:

Alaska	1
Canal Zone	3
Hawaii	14
Philippine Islands	6
Puerto Rico	32
—	—

56

Other Countries:

Australia	9
Argentina	24
Brazil	25
Canada	47
Chile	2
China	1
Colombia	5
Costa Rica	1
Cuba	24
Dominican Republic	1
Ecuador	5
El Salvador	1
Guatemala	2
Haiti	2
India	3
Mexico	27
New Zealand	1
Nicaragua	1
Norway	1
Republic of Panama	5
Paraguay	2
Peru	19
South Africa	10
Uruguay	3
Venezuela	7
—	—

228

TOTAL MEMBERSHIP 1766

Captain Robert E. Duncan, (MC) U.S.N., Washington, D. C., *Chairman*Major General S. U. Marietta, U.S.A., Washington, D. C., *Vice-Chairman*

Leo Eloesser, M.D., San Francisco, Calif.

Herman E. Hilleboe, M.D., Washington, D. C.

Chevalier L. Jackson, M.D., Philadelphia, Pa.

Ralph C. Matson, M.D., Portland, Oregon

William E. Ogden, M.D., Ontario, Canada

Richard H. Overholt, M.D., Brookline, Mass.

Joseph C. Placak, M.D., Cleveland, Ohio

Col. Roy A. Wolford, Washington, D. C.

The report of the Membership Committee was moved for adoption by Dr. Mark, who expressed thanks for Captain Duncan's fine work, seconded by Dr. Peabody, and unanimously carried.

Confirmation of Appointments Governors and Regents

The following appointments which your president has made in accord with the powers granted to him under the By-Laws, are herewith submitted to the Board of Regents of the College for confirmation.

Australia:

Regent—Dr. John H. Blackburn, Queensland.
Governors—Dr. Hilary Roche, Melbourne, *Victoria*.
Dr. J. A. Murphy, Waterfall, *New South Wales*.
Dr. Darcy R. W. Cowan, Adelaide, *South Australia*.

Chile:

Regent—Dr. Hector Orrego Puelma, Santiago.
Governor—Dr. Gilberto V. Zamorano, *Valparaiso*.

Costa Rica:

Governor—Dr. Raul Blanco Cervantes, San Jose.

Dominican Republic:

Governor—Dr. J. M. Moscoso Cordero, Trujillo.

Haiti:

Governor—Dr. Louis Roy, Port-au-Prince.

Republic of Panama:

Regent—Dr. Amadeo Vicente-Mastellari, Panama City,
Central American Countries.
Governor—Dr. Augustin A. Sosa, Panama City.

Puerto Rico:

Regent—Dr. David Garcia, Hato Rey.
Governor—Dr. A. M. Marchand, Santurce.

Jay Arthur Myers, M.D., Minneapolis, Minn.
President.

Dr. Peabody made a motion that these appointments be accepted, seconded by Dr. Strohm, and adopted unanimously by the Board of Regents.

Report of the Board of Examiners

The Board of Examiners has not had an opportunity to meet formally and discuss policies regarding qualifying examinations. Informally, through correspondence, there has been an exchange of ideas and views regarding the subject matter given in previous examinations and suggestions were offered for the improvement of future examinations.

It was decided to hold an examination on June 16th at Chicago. Because of traveling conditions, it was thought best to permit those who were unable to come to Chicago, to take the examination as close to their homes as possible on the same day, or as close as possible to June

16, provided that the Governor or Regent of the corresponding district, or some other official of the College, supervised the examination. It was thought best to limit this examination to a written one, covering the following subjects: Thoracic diseases, medical and surgical aspects; physiology; bacteriology and immunology; pathology; and anatomy of the chest.

In addition to the members of the examining board who contributed the medical and surgical questions, the following were kind enough to submit questions as follows:

Anatomy of the Chest—Dr. Jay Arthur Myers, Minneapolis, Minnesota.

Physiology—Dr. Alrick Hertzman, Professor and Director of the Department of Physiology, St. Louis University.

Bacteriology and Immunology—Professor L. R. Jones, Head and Director of the Department of Bacteriology and Immunology, St. Louis University.

Pathology—Dr. Ruth Silverberg, Pathologist to City Hospital and Jewish Hospital, St. Louis, Missouri.

The examining board is indeed indebted to these people for their willingness to assist in the preparation of the questions. It is needless to state that many problems face the board. For instance, shall we be satisfied with a written examination or shall we include an oral examination? Shall we also consider a clinical, practical examination in the future?

It will be the purpose of the examining board to admit to Fellowship only those applicants who have shown through the medium of the qualifying examinations that they possess a satisfactory medical background plus adequate training and experience in the field of chest diseases.

The committee wishes to solicit suggestions for the improvement of this activity of the College, not only from the Board of Regents and Governors, but also from the membership at large.

The Board of Examiners has completed arrangements for 38 candidates from 17 states to take the following written examination:

WRITTEN EXAMINATION FOR FELLOWSHIP

American College of Chest Physicians

Thoracic Diseases (Medical Aspects)

Part 1

Discuss the differential diagnosis of a pain in the region of the 3rd and 4th inter-costal space on the left side in a man about 50 years of age.

Thoracic Diseases (Medical Aspects)

(Answer 3 of the 5 questions)

Part 2

- (1) Being consulted by a patient suspected of having pulmonary tuberculosis, outline briefly the procedure you would follow to confirm or disprove the diagnosis of pulmonary tuberculosis.
- (2) Being consulted by a patient with active, reinfection pulmonary

tuberculosis, describe briefly the course you would outline for the patient.

- (3) Discuss the significance and treatment of pulmonary hemorrhage occurring in a patient with clinical reinfection pulmonary tuberculosis.
- (4) Discuss briefly the diagnosis, treatment and prognosis of tuberculous enterocolitis complicating reinfection pulmonary tuberculosis.
- (5) Discuss briefly the place of mechanical therapy in the treatment of reinfection pulmonary tuberculosis, pointing out, in a general way, the indications for this method of treatment.

Thoracic Diseases (Surgical Aspects)

(Answer (1) and any two of the remaining four)

- (1) What are the indications and contraindications for total pneumonectomy for carcinoma of the lung?
- (2) In the event of contemplated total pneumonectomy or lobectomy, what do you consider of importance in preoperative preparation? Discuss briefly (a) preoperative pneumothorax, (b) chemotherapy and other rationale.
- (3) Describe briefly the mechanism of the intrathoracic readjustments following pneumonectomy.
- (4) Discuss closure of the primary bronchus in total pneumonectomy and secondary bronchi in lobectomy.
- (5) Mention important features of postoperative treatment, (a) the use of oxygen; (b) chemotherapy; (c) position of patient immediately following operation and (d) bronchoscopic aspiration.

Anatomy of the Chest

(Answer any two of the three questions)

- (1) Describe the nerve supply of the lungs and pleura.
- (2) What are the anatomical relations of the apex of the right and left lungs which account for differences in physical signs over these areas anteriorly?
- (3) Why are aspirated foreign bodies more likely to be found in the right than in the left lung?

Physiology

(Answer any two of the following four questions)

- (1) What would be the effect on a patient with a unilateral pneumothorax of ascent in an airplane to an altitude of 6,000 feet (over Chicago)?
- (2) Describe and explain the production of dyspnea in lobar pneumonia.
- (3) Explain the occurrence of anoxia and of dyspnea in asthma.
- (4) Why doesn't collapse of one lung as in pneumothorax, asphyxiate or produce anoxia?

Pathology

(Answer any two of the following four questions)

- (1) Discuss the cor-pulmonale and give its causes.
- (2) List in their relative frequency the benign and primary malignant tumors occurring in the thoracic cavity. Describe the histological appearance of any one benign and one malignant tumor.

- (3) Discuss the pulmonary complications of lobar pneumonia. Describe gross and histological appearance.
- (4) Describe grossly and microscopically the primary lesion in pulmonary tuberculosis and discuss the possible courses it may take.

Bacteriology and Immunology

(Answer any two of the following four questions)

- (1) Indicate the nature of two laboratory procedures which may be employed in the possible recognition of the etiologic agent of tuberculosis in sputum. Give an advantage and a disadvantage of each procedure.
- (2) As an aid in the problem of diagnosis of tuberculous infection, discuss the possible value of those measures which are related to the state of specific hypersensitiveness in the patient.
- (3) In pneumococcal pneumonia, why may early "typing" of the causative organism be of importance?
- (4) Discuss the probable etiology of the early and later stages of the common cold.

H. I. Spector, M.D., St. Louis, Missouri, *Chairman*

Edward W. Hayes, M.D., Monrovia, Calif.

William F. Rienhoff, M.D., Baltimore, Md.

In the absence of Dr. Spector, Dr. E. W. Hayes read the report of the Board of Examiners. Dr. Banyai moved the acceptance of the report and expressed appreciation of Dr. Spector's fine efforts, seconded by Dr. Hendricks, and carried unanimously.

Report of the Committee to Study the Advisability of Establishing a Board of Diseases of the Chest

Statement of Purpose:

The purpose of this report is to bring the members of the Board of Regents of the American College of Chest Physicians up to date on the activities of the committee appointed by the College President to study the advisability and the steps to be taken for the establishment of a Board of Diseases of the Chest.

Recognized Boards:

We are listing below the fifteen recognized boards and the year of their incorporation, together with the number of physicians certified as of March 1, 1945.

Name of Board	Year Incorporated	Certificates (3-1-45)*
American Board of Ophthalmology	1917	2,437
American Board of Otolaryngology	1924	3,848
American Board of Obstetrics and Gynecology	1930	1,871
American Board of Dermatology and Syphilology	1932	710
American Board of Pediatrics	1933	2,318
American Board of Psychiatry and Neurology	1934	1,899
American Board of Orthopaedic Surgery	1934	896
American Board of Radiology	1934	2,095

<i>Name of Board</i>	<i>Year Incorporated</i>	<i>Certificates (3-1-45)*</i>
American Board of Urology	1935	1,018
American Board of Internal Medicine	1936	3,541
American Board of Pathology	1936	1,047
American Board of Surgery	1937	2,499
American Board of Plastic Surgery	1937	161
American Board of Anesthesiology	1938	249
American Board of Neurological Surgery	1940	163
TOTAL		24,725

*J.A.M.A., May 12, 1945, pp. 128-129.

Sub-Boards:

The following subspecialties have been organized under the American Board of Internal Medicine and the American Board of Surgery.

<i>American Board of Internal Medicine:</i>	<i>Certificates (3-1-45)*</i>
Sub-Board of Allergy	75
Sub-Board of Cardiovascular Disease	325
Sub-Board of Gastroenterology	157
Sub-Board of Tuberculosis	136

693

American Board of Surgery:

Sub-Board of Proctology	71
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TOTAL

764**

*J.A.M.A., May 12, 1945, pp. 128-129.

**The above 764 who have been certified in the subspecialties are included in the total figures published for the American Board of Internal Medicine and the American Board of Surgery.

Applicants who desire to be certified in the subspecialties are required to pass the oral and written examinations of the main specialty board before they can take the examination in the subspecialty.

Sub-Board of Tuberculosis:

In a communication received from the Assistant Secretary-Treasurer of the American Board of Internal Medicine, dated March 29, 1945, the following are the figures given as of that date for the Sub-Board of Tuberculosis:

Total number of physicians certified in the subspecialty of tuberculosis	136
Total number of physicians certified without examination in the subspecialty of tuberculosis	104
Number admitted by examination	32
Number admitted by examination in 1944	5

Board of Examiners of the College:

As a comparison between the number of chest specialists who have been admitted by examination to the sub-board of tuberculosis and those admitted by examination to Fellowship in the American College of Chest Physicians, we list below the following figures:

Examinations for College Fellowship

	<i>Passed</i>	<i>Failed</i>	<i>Total</i>
June 5, 1942—Oral	24	1	25
Jan. 29, 1943—Written	16	4	20
Nov. 17, 1943—Written	10	0	10
June 9, 1944—Written	27	5	32
June 16, 1945—Written	31	7	38
TOTAL	108	17	125

Advisory Board for Medical Specialties:

The Advisory Board for Medical Specialties was organized in 1933-34 to coordinate graduate education and certification of medical specialties in the United States and Canada.

The Advisory Board is composed of two representatives from each of the approved examining Boards in the medical specialties and such other national organizations as are interested in education, examination and certification of medical specialists, and duly elected to this body.

In 1940 there was published the first edition of the Directory of Medical Specialists containing the names and biographic data of all men certified by the several specialty Boards, as well as information regarding the organization and functions of these Boards (approximately 14,000 names). In 1942 there was published the second edition of the Directory of Medical Specialists (approximately 18,000 names).

The Advisory Board reports directly to its member groups and functions in close cooperation with the Council on Medical Education and Hospitals of the American Medical Association, and with the Advisory Council on Medical Education.

The Advisory Board has voted that no more subsidiary Boards be formed and that further special groups be provided for, so far as possible, within the Boards of Medicine and Surgery.

Activities of the College Committee to Study the Advisability of Establishing a Board of Diseases of the Chest:

After considerable correspondence dating back to July 17, 1940, and the holding of a number of committee meetings and conferences, the following resolution was adopted at a joint meeting at St. Louis, November 14, 1944, of committees representing the American Association for Thoracic Surgery, the American Broncho-Esophagological Association, and the American College of Chest Physicians. "Resolved, that it be the consensus of opinion of the representatives of the societies assembled at this conference, that the American College of Chest Physicians, the American Trudeau Society, the American Association for Thoracic Surgery, and the American Broncho-Esophagological Association should appoint committees to meet jointly with the Advisory Board for Medical Specialties in order to discuss the question under consideration." ("Diseases of the Chest," January-February, 1945, pp. 95-96).

It is, however, the consensus of opinion of the members of the College

committee that a formal agreement be reached among the officials of the above-mentioned societies before a constructive program can be discussed with the Advisory Board of Medical Specialties. At the present time there are many conflicting views regarding this matter which need to be ironed out.

Policy of the American Trudeau Society Regarding Certification:

We quote the following report from the Committee on Policy of the American Trudeau Society, as published in the American Review of Tuberculosis, February, 1945:

"The American Trudeau Society indorses the principle that physicians specializing in tuberculosis, or other restricted branches, should be fundamentally well qualified in internal medicine. This is the principle also underlying the policies of the American Board of Internal Medicine in certifying specialists. The American Trudeau Society cooperates with the American Board of Internal Medicine to this end. The Society encourages and urges its members who are interested in becoming certified, to apply to the American Board of Internal Medicine. The proper procedure is as follows:

"The applicant must first be certified in internal medicine by the American Board after he has satisfied the requirements and has passed written and oral examinations. After such certification he may apply for additional certification in the subspecialty of tuberculosis. On passing an oral examination in the subject of the subspecialty, he may then receive this additional certification by vote of the American Board of Internal Medicine. Request for formal application blanks and for other information should be addressed to Dr. William A. Werrell, Assistant Secretary-Treasurer, American Board of Internal Medicine, 1301 University Avenue, Madison 5, Wisconsin.

Dr. John Alexander

Dr. Chesley Bush, *Chairman*

Dr. J. Burns Amberson, Jr.

Dr. James J. Waring

College Committee Recommends Establishing a Board of Diseases of the Chest:

It is the unanimous opinion of the members appointed by the President of the College to study the advisability of organizing a Board of Diseases of the Chest, that such a Board should be organized and that it apply for admission to the Advisory Board for Medical Specialties. It is further recommended that a Board on Diseases of the Chest should be accepted under the same terms and conditions as the other fifteen existing and recognized medical specialty boards. It is the consensus of opinion of the members of the College committee that the Sub-Board of Tuberculosis is inadequate and that it does not fulfill the needs for certification in the specialty of diseases of the chest. This is borne out by the small number of physicians who have been admitted to the Sub-Board of Tuberculosis by examination. It is also the consensus of opinion of the members of this committee that the term "tuberculosis specialist" is inadequate and that this term does not take into consideration all of the other diseases which are found in the chest cavity. The committee, therefore, recommends that the term "chest specialist" should be used rather than the term "tuberculosis specialist".

The following summary of an article entitled "The Chest Specialist: His Training and Services," by Milton S. Lloyd, M.D., F.C.C.P., New York, N. Y.,* presented before the annual conference of College Chapter Of-

*To be published in *Diseases of the Chest*.

ficials meeting at Chicago, Illinois, June 12, 1944, is added to this report because it adequately expresses the views of a large number of the chest specialists in this country.

1. Since the turn of the century, the chest specialist's field has been developed and perfected to a high degree.

2. This field now comprehends a number of methods and procedures requiring specialized training such as x-ray, pneumothorax, bronchoscopy and surgery.

3. All these methods are closely interrelated and knowledge in any one of them enhances ability in the others.

4. At present, students in this specialty are prevented from reaching a maximum perfection in their work by regulations and restrictions carried over from the past. These regulations also force students in other specialties, as well as their teachers, to devote unnecessary time to fields of training which will never be used in practice.

5. It is recommended that the chest specialist be permitted the same freedom of action in the exploitation of his own field as is enjoyed by other specialties.

6. Such a course would permit the chest specialist to stand upon his own resources and to carry the benefits of his training to the general populace through existing hospitals by creating new outlets for his services.

Post War Certification:

In the final report on 21,029 questionnaires returned to the American Medical Association on the postgraduate wishes of medical officers, it is stated that 71 per cent of these officers desire certification (J.A.M.A., March 31, 1945, pp. 759-770). If this percentage holds true, there are 40,000 or more men now in the armed services who desire certification. A large number of these men will be obliged to take the Board of Internal Medicine before they can be certified in their particular specialties. Our committee feels that it has a duty to perform in the interests of the College members serving with the armed forces, as well as for those physicians in the armed forces who will desire to become chest specialists. We do not think that it is fair to expect these qualified chest specialists to take an examination in the Board of Internal Medicine, nor is it fair to expect them to take an additional examination in the Sub-Board of Tuberculosis. These men should be examined as chest specialists, by a Board of chest specialists, and they should be certified as chest specialists.

Resolutions Adopted by College Chapters:

*New York State Chapter**

1. Whereas the field of medical endeavor comprehended by the term "chest specialist" is a well defined specialty and,

2. Whereas the exploitation of this field requires particular training in and exercise of a number of specialized methods and practices and,

3. Whereas the chest specialist is greatly handicapped by not having the unrestricted freedom in his field which is enjoyed by other specialties and,

4. Whereas equal difficulty is now being experienced from the same cause in the training of the rising generation of chest specialists and,

*Adopted at the Chapter Meeting, Biltmore Hotel, New York City, February 2, 1945.

5. Whereas, due to the lack of properly trained specialists, general hospitals are, for the most part, left with inadequate or no service at all in the field of chest diseases and,

6. Whereas part of these difficulties is perpetuated by the fact that the specialty of chest diseases has not been officially recognized as such,

Therefore, be it resolved that this body, in official session assembled, place itself on record as in favor of the following:

1. Recognition of "chest diseases" as a specialty by the American Board for Medical Specialties.

2. Freedom of the chest specialist to practice and explore all methods of diagnosis and treatment within his province which will contribute to the patient's welfare.

3. The right of all internes, residents and practitioners in special chest hospitals or chest services to receive instruction in all methods of diagnosis and treatment of chest diseases for which they are qualified by ability and previous training.

4. The appraisal of all properly interested bodies of the content of this resolution, urging that they use their influence to secure its adoption with the least possible delay.

*Indiana Chapter**

The Indiana Chapter of the American College of Chest Physicians goes on record as supporting the establishment of a Board of Diseases of the Chest to replace the sub-specialty of Tuberculosis of the Board of Internal Medicine.

*Adopted at the Chapter Meeting, Columbia Club, Indianapolis, March 18, 1945.

Illinois Chapter

The Illinois Chapter of the American College of Chest Physicians at a special meeting held at the Bismarck Hotel, Chicago, Illinois, April 5, 1945, recommends to the Board of Regents of the College that steps be taken to establish at an early date the American Board of Diseases of the Chest.

Such a Board should, if possible, be organized in conformity with the rules established by the Advisory Board for Medical Specialties, and Council on Medical Education of the American Medical Association.

It is the concensus of opinion of the members of the Illinois Chapter of the College that the present Sub-Board of Tuberculosis is inadequate and that it does not give proper recognition to the physicians who are qualified chest specialists.

The Secretary of the Illinois Chapter of the College is hereby authorized to send a copy of this resolution to the Executive Secretary of the American College of Chest Physicians and it is to be presented to the Board of Regents of the College at their next annual meeting.

California Chapter

Board of Regents
American College of Chest Physicians

May 7, 1945

Gentlemen:

We understand that the question of establishing the American Board of Diseases of the Chest will come before the June meeting of the Board

of Regents of this College. We the undersigned of the California Chapter feel that such a Board is of importance to the chest specialists in this country and therefore respectfully urge your immediate consideration of this matter.

Sincerely yours,

Stephen A. Parowski, M.D., *President*
Harry C. Warren, M.D., *Regent*
John C. Sharp, M.D., *Governor*
Seymour M. Farber, M.D., *Secy.-Treas.*

RESOLUTION

This committee recommends to the Board of Regents of the American College of Chest Physicians that they adopt the following resolution:

BE IT RESOLVED: That the Board of Regents of the American College of Chest Physicians, in annual session at Chicago, Illinois, June 17, 1945, go on record as supporting the establishing of a Board of Diseases of the Chest and that the President of the College be authorized to appoint a committee to take the initiative to assist in formulating such a Board.

The name of the Board shall be the "American Board of Diseases of the Chest" and the Board when duly organized shall make proper application for admittance to the Advisory Board for Medical Specialties. This Board shall be a separate organization and shall be incorporated in conformity with the rules and regulations set forth by the Advisory Board for Medical Specialties.

BE IT FURTHER RESOLVED: That the American Trudeau Society, the American Association of Thoracic Surgery and the American Broncho-Esophagological Association be invited to join with this committee in the formation of the Board and have representation on this Board.

AND BE IT FURTHER RESOLVED: That in the event the other three societies, or any of these societies, fail to participate in the sponsoring of this Board, the Committee of the American College of Chest Physicians take the necessary steps to sponsor this Board.

Dr. J. Winthrop Peabody, Washington, D. C., *Chairman*

Dr. Charles M. Hendricks, El Paso, Texas

Dr. Edgar Mayer, New York, N. Y.

Dr. Chevalier L. Jackson, Philadelphia, Pa.

Dr. Joseph C. Placak, Cleveland, Ohio

This resolution was moved for adoption by Dr. Overholt; seconded by Dr. Hendricks, and passed unanimously by the Board of Regents.

Meeting: Council on Undergraduate Medical Education

A meeting of the Editorial Board of the proposed textbook on tuberculosis which is being sponsored by the Council on Undergraduate Medical Education of the College was held at the Palmer House, Chicago, Illinois, on June 17, 1945. The meeting was attended by the following members of the Council and invited guests:

Dr. E. W. Hayes, Monrovia, California, *Chairman*

Dr. Andrew L. Banyal, Milwaukee, Wis.
Dr. Benjamin L. Brock, Louisville, Ky.
Dr. Seymour Cohen, Oak Terrace, Minn.
Dr. Charles M. Hendricks, El Paso, Texas
Dr. Paul H. Hollinger, Chicago, Illinois
Dr. William A. Hudson, Detroit, Michigan
Dr. C. Howard Marcy, Pittsburgh, Pa.

Dr. Jay Arthur Myers, Minneapolis, Minn.
Dr. William C. Ogden, Toronto, Ontario
Dr. Richard H. Overholt, Brookline, Mass.
Dr. J. Winthrop Peabody, Washington, D. C.
Dr. Joseph C. Placak, Cleveland, Ohio
Dr. Nelson W. Strohm, Buffalo, N. Y.
Dr. Paul A. Turner, Louisville, Kentucky

Dr. Hayes, the Chairman of the Council, outlined the purposes of the book and reported on the progress made to date. An interesting discussion took place in which all of those present participated. Following the discussion, a deadline for the receipt of the material to be published in the book was set as October 1, 1945.

It was agreed that this book be prepared as a textbook for medical students and a guide for teachers of tuberculosis. It was proposed that this book be brief, that it contain in as few well-chosen words as possible, the fundamentals which have to do with the cause, prevention, the diagnosis and the treatment of tuberculosis, and that this information be set forth in short, concise chapters. It is not intended to supplant the voluminous textbooks already published on tuberculosis and students will be encouraged and urged to develop their knowledge on tuberculosis by reading more extensive literature on the subject. It is the plan of the Council to revise the text of this book from time to time in order to keep it up to date.

Dr. Hendricks made a motion for the adoption of the plans for the book as presented, seconded by Dr. Mark and carried unanimously.

PROPOSED TEXTBOOK SPONSORED BY THE COUNCIL ON
UNDERGRADUATE MEDICAL EDUCATION

American College of Chest Physicians

TITLE: TUBERCULOSIS: A TEXT IN BRIEF FOR THE STUDENT
AND TEACHER.

Authors and Subjects:

Banyal, Andrew L., M.D., Wauwatosa, Wisconsin.
"Differential Diagnosis of Reinfection Tuberculosis."

Brock, Benjamin L., M.D., Waverly Hills, Kentucky.
"The Role of the Bronchial Tree in the Pathogenesis of Pulmonary Tuberculosis."

Cohen, Sumner S., M.D., Oak Terrace, Minnesota.
"Laryngeal Tuberculosis."

Hayes, Edward W., M.D., Monrovia, California.
"The Treatment of Reinfection Pulmonary Tuberculosis and Tuberculous Enterocolitis."

Hayes, John N., M.D., Saranac Lake, New York.
"Pulmonary Hemorrhage and Pleural Effusion as They Relate to Pulmonary Tuberculosis, Together with the Complications of Reinfection Pulmonary Tuberculosis, Except, Tracheal and Endo-Bronchial Tuberculosis, Tuberculous Enterocolitis, Laryngeal Tuberculosis and Genito-Urinary Tuberculosis. Prognosis of Reinfection Pulmonary Tuberculosis."

Hendricks, Charles M., M.D., El Paso, Texas.

"Psychosomatic Aspects of Tuberculosis."

Hilleboe, Herman E., M.D., Washington, D. C.

"Public Health Aspects of Tuberculosis."

Holinger, Paul H., M.D., Chicago, Illinois.

"Tracheal and Endo-Bronchial Tuberculosis."

Jennings, Frank L., M.D., Indianapolis, Indiana.

"Tuberculosis and Pregnancy."

Edwin R. Levine, M.D., Chicago, Illinois.

"Classification of Tuberculosis."

1. Primary tuberculosis.
 - a. Cause.
 - b. Diagnosis.
 - c. Treatment.
 - d. Prognosis.
2. Acute forms of reinfection tuberculosis.
 - a. Tuberculous meningitis.
 - b. Miliary tuberculosis.
 - c. Tuberculous pneumonia.
 - d. Tuberculosis of the pleura.
3. Chronic reinfection pulmonary tuberculosis.
 - a. Quantitative classification.
 - b. Qualitative classification.

C. Howard Marcy, M.D., Pittsburgh, Pennsylvania.

"Chest X-Ray."

Marietta, Major General S. U., Washington, D. C.

"Diabetes and Tuberculosis."

Matson, Ralph C., M.D., Portland, Oregon.

"Minor Forms of Operative Therapy of Reinfection Pulmonary Tuberculosis."

Myers, Jay Arthur, M.D., Minneapolis, Minnesota.

1. "General Considerations Including Brief Discussion of the:
 - a. Anatomy of the lungs and bronchial tree.
 - b. History.
 - c. Epidemiology of tuberculosis.
 - d. Steps in the prevention and the control of tuberculosis.
 - e. Pathology of tuberculosis."

Overholt, Richard H., M.D., and Wilson, Norman L., M.D.,

Brookline, Massachusetts.

"Major Forms of Operative Therapy in Reinfection Pulmonary Tuberculosis."

Peabody, J. Winthrop, M.D., Washington, D. C.

"Diagnosis of Reinfection Pulmonary Tuberculosis."

Sander, Oscar A., M.D., Milwaukee, Wisconsin.

"Silico-Tuberculosis."

Thomas, Gilbert J., M.D., Beverly Hills, California.

"Tuberculosis of the Genito-Urinary Tract."

OUTLINE OF BOOK

TITLE: TUBERCULOSIS: A TEXT IN BRIEF FOR THE STUDENT AND TEACHER.

I. General considerations

Anatomy of lungs and bronchial tree in brief

- A. Gross Structure
- B. Blood supply
- C. Lymphatic supply
- D. Nerve supply

II. Tuberculosis

- A. History
- B. Cause—the tubercle bacillus
- C. Theories of how infection with the tubercle bacillus takes place
 - 1. Significance of infection with the tubercle bacillus
 - a. First infection—Sequelae
 - b. Second or reinfection—Sequelae
 - 2. Means of control and prevention of infection with the tubercle bacillus
 - 3. Incidence of infection with the tubercle bacillus in the U. S. A.
- D. Pathology of tuberculosis
 - 1. Infection versus disease
 - 2. Development of the tubercle—its nature
 - 3. How the disease progresses from the tubercle
 - 4. Different pathological manifestations that occur as the disease progresses
- E. The role of the bronchial tree in the pathogenesis of pulmonary tuberculosis
- F. Classification of tuberculosis
 - 1. First or primary infection type of tuberculosis
 - a. Definition including general discussion of first infection
 - b. Course
 - c. Diagnosis
 - d. Treatment
 - 2. Second or reinfection type of tuberculosis
 - a. Acute reinfection tuberculosis
 - 1'. Tuberculous meningitis
 - 2'. Miliary tuberculosis
 - 3'. Tuberculous pneumonia
 - 4'. Tuberculosis of the pleura
 - b. Chronic reinfection tuberculosis, pulmonary
 - 1'. Quantitative classification
 - a'. Minimal
 - b'. Moderately advanced
 - c'. Far advanced
 - 2'. Qualitative classification
 - a'. Exudative type
 - 1". Resolving exudative form
 - a". Rapidly resolving form
 - b". Slowly resolving or exudative-productive form
 - 2". Non-resolving exudative form—caseous pneumonic tuberculosis
 - b'. Productive type of tuberculosis

3. Classification of pulmonary tuberculosis—Illustrated

G. Diagnosis of reinfection pulmonary tuberculosis

H. Differential diagnosis of reinfection pulmonary tuberculosis from:

1. Benign tumors of the lung
2. Carcinoma of the lung
3. Silicosis
4. Asbestosis
5. Siderosis
6. Bagassosis (Bagasse disease)
7. Cystic disease of the lung
8. Bronchiectasis
9. Pulmonary abscess
10. Mediastinal abscess
11. Loeffler's syndrome
12. Pulmonary embolism
13. Coccidioidomycosis
14. Bronchopulmonary monilliasis
15. Pulmonary streptothricosis
16. Pulmonary blastomycosis
17. Pulmonary aspergillosis
18. Pulmonary sporotrichosis
19. Pulmonary actinomycosis
20. Torulosis
21. Pulmonary histoplasmosis
22. Atelectasis
23. Friedlander's pneumonia
24. Fibroid pneumonia
25. Lipoid pneumonia
26. Pneumococcal pneumonia
27. Influenzal pneumonia
28. Primary atypical pneumonia
29. Ornithosis
30. Bronchopneumonia
31. Pulmonary sarcoidosis
32. Pulmonary syphilis
33. Foreign bodies in the lung
34. Pleural effusion
35. Hodgkin's disease
36. Pulmonary anthrax
37. Pulmonary glanders
38. Paragonimiasis (Endemic Hemoptysis)
39. Hydatid cyst of the lung
40. Non-tuberculous spontaneous pneumothorax
41. Chronic non-tuberculous bronchitis
42. Bronchial asthma
43. Emphysema
44. Hyperthyroidism
45. Undulant fever
46. Focal infections
47. Neurasthenia
48. Heart and vascular diseases
49. Kidney disease
50. Diabetes mellitus

51. Syphilis
52. Anemias
53. The leukemias
54. Gall bladder disease
55. Influenza
56. Trichinosis
57. Malaria
58. Typhoid fever
59. Amebiasis
- I. Treatment of reinfection pulmonary tuberculosis
 1. Psychosomatic aspects
 2. General treatment of reinfection pulmonary tuberculosis
 - a. Prophylaxis
 - b. Determination of activity or inactivity of lesion
 - c. Therapeutic program for patient
 - 1'. Rest
 - a'. Supplements to rest
 - 2'. Climate
 - 3'. Diet
 - 4'. Drugs
 - 5'. Light therapy
 3. Operative therapy
 - a. Simpler forms of operative therapy
 - b. Major forms of operative therapy
- J. Complications of reinfection pulmonary tuberculosis in general including pleural effusion and pulmonary hemorrhage
 1. Tuberculous enterocolitis
 2. Tracheal and endo-bronchial tuberculosis
 3. Laryngeal tuberculosis
 4. Genito-urinary tuberculosis

(These to be discussed in separate chapters by other authors.)
- K. Reinfection pulmonary tuberculosis and
 1. Pregnancy
 2. Silicosis
 3. Diabetes
- L. Public Health aspects of pulmonary tuberculosis
- M. Prognosis of reinfection pulmonary tuberculosis

Report of the Council on Postgraduate Medical Education

The main objective undertaken by the Council on Postgraduate Medical Education of the College during the past year was the establishing of a Speaker's Bureau. Because of the cancellation of most of the national and state medical meetings, it was the opinion of the members of this Council that further postgraduate medical education would have to be carried out at a local level. It was, therefore, deemed advisable that plans be formulated so that competent speakers on timely subjects con-

cerning the latest developments in diseases of the chest could be made available for the meetings of the county medical societies.

With this arrangement in mind, the Council on Postgraduate Medical Education mailed questionnaires to the members of the College. Replies were received from 44 members in 22 states. The subjects upon which the speakers are prepared to talk have been listed and published in the College journal, *Diseases of the Chest* (March-April, 1945, Vol. XI, No. 2, pp. 163-165). Reprints have been made of this information and the executive office is now in the process of mailing these reprints to the secretaries of some 3,000 county medical societies in this country. Our Council is requesting the members of the Program and Public Relation Committees of the College chapters to contact the secretaries of the local medical societies and complete arrangements for speakers on these various phases of chest diseases in connection with the scientific meetings of the societies.

The Council on Postgraduate Medical Education of the College makes the following recommendations:

- (1) That the Speakers Bureau be made a permanent part of the College program and that the information be made available to the state medical societies and to national medical organizations when such societies again consider arranging scientific programs.
- (2) That the information be made available to the Scientific Program Committee of the College and that subject matter of interest to the members of the College be incorporated in the annual scientific programs.
- (3) That this information be given to the Editor of the College journal, *Diseases of the Chest*, in order that articles of interest to the readers of the journal may be obtained from among the subject matters compiled by the Speakers Bureau for publication in the journal.

The Council urges that chest x-ray conferences be made a part of all scientific programs concerned with diseases of the chest. It further recommends that the roentgenological societies be encouraged to cooperate with the chest specialists in presenting chest x-ray conferences. It is the opinion of this Council that other allied groups interested in diseases of the chest be invited to participate in these x-ray conferences.

The Council on Postgraduate Medical Education of the College has studied a recommendation submitted by Dr. George Foster Herben, Governor of the College for New York State, and presented at a meeting of the Board of Regents held at St. Louis on November 13, 1944, by Dr. Nelson W. Strohm, Regent of the College for New York State, concerning postgraduate medical education for physicians who are serving with the armed forces of our country. The Council proposes the following resolution for adoption by the Board of Regents:

IT IS PROPOSED: That the Council on Postgraduate Medical Education of the American College of Chest Physicians take immediate steps to organize a program on postgraduate medical education covering the various phases of chest diseases and that this course be made available without cost to all physicians in the armed services.

IT IS FURTHER PROPOSED: That special attention be given to preparing refresher courses for members of the College after they are released from the armed services of our country.

Wherever possible, these courses should be correlated with the refresher courses sponsored by the Surgeons General of the U. S. Army and the U. S. Navy.

J. Winthrop Peabody, M.D., Washington D. C., *Chairman*

Paul D. Crimm, M.D., Evansville, Ind.

James S. Edlin, M.D., New York, N. Y.

Geo. B. Gilbert, M.D., Colorado Springs, Colo.

Alvis E. Greer, M.D., Houston, Texas

Carl R. Howson, M.D., Los Angeles, Calif.

I. L. Robbins, M.D., New Orleans, La.

Moses J. Stone, M.D., Boston, Mass.

Willard Van Hazel, M.D., Chicago, Ill.

Upon motion by Dr. Mark, seconded by Dr. Strohm, this report and resolution were accepted by the Board of Regents.

Report of the Council on Military Affairs and Public Health

The Council on Military Affairs and Public Health has divided its program into two parts: A) Activities which are primarily concerned with military affairs, and B) Activities which are confined to the public health.

A) *Military Affairs:*

Concerning the program on Military Affairs, the Council has confined its activities to the arrangement and presentation of reports from the officials of the various branches of the Government at the annual meetings of the College, commencing with the annual meeting at Cleveland in 1941. Similar meetings have been held at Atlantic City, 1942, and Chicago, 1944. The College did not meet in 1943. Through these get-togethers the membership of the College was informed by competent authorities representing the various services of the Government, concerning the latest advancements in meeting the problems of tuberculosis and other chest conditions by the Government Medical Service of our country. All of the papers presented at these meetings were published in the College journal, *Diseases of the Chest*. The symposium on "Tuberculosis in World War II," which was presented at the last annual meeting of the College, was published in the May-June, 1945 issue of the College journal (Vol. XI, No. 3).

The Council will continue to keep abreast of the latest developments in military affairs, particularly as it effects returning veterans.

B) *Public Health*

In 1943 this Council published an article in the College journal entitled "Tuberculosis in Our Industrial Army: An Appeal to Management and Labor" (May-June, 1943, Vol. IX, No. 3). The purpose of the article was to encourage mass chest x-ray examinations in industry. Requests for more than 20,000 reprints of this article were received from physicians, tuberculosis societies, public health officials and from others interested in the program. These requests came from nearly every state in the Union and after a period of two years, requests are still being received by this Council for reprints of the article. We are pleased to report that we have complied with all of the requests and we will continue to send out the reprints, as long as the present supply is available.

In the March-April, 1945 issue of *Diseases of the Chest*, the Council released a follow-up article entitled "Man Power and Tuberculosis," and requests for copies of this reprint are already being received in considerable number.

Charles M. Hendricks, M.D., El Paso, Texas, <i>Chairman</i>	
Richard Davison, M.D., Chicago, Illinois	Maj. Gen. S. U. Marietta, U.S.A.,
Capt. Robert E. Duncan, U.S.N.,	Washington, D. C.
Washington, D. C.	Joseph W. Post, M.D., Philadelphia, Pa.
Herman E. Hilleboe, M.D., Washington, D. C.	Samuel E. Thompson, M.D., Kerrville, Texas
Col. Roy A. Wolford, Washington, D. C.	Walter E. Vest, M.D., Huntington, W. Va.

Upon motion by Dr. Strohm, seconded by Dr. Turner, this report was accepted by the Board of Regents.

Report of the Council on Sanatorium Standards and Administration

A meeting of the Council on Sanatorium Standards and Administration was held at St. Louis, Missouri, on November 14, 1944. The following members of the Council were present:

Dr. Russell S. Anderson, Erie, Pennsylvania
Dr. Merle D. Bonner, Jamestown, N. C.
Dr. Myron Miller, Columbus, Ohio
Dr. Benjamin L. Brock, Waverly Hills, Ky.

The Council was honored by the presence of the following Regents of the College:

Dr. Andrew L. Banyai, Wauwatosa, Wisconsin
Dr. Edward W. Hayes, Monrovia, California
Dr. Charles M. Hendricks, El Paso, Texas
Dr. J. Winthrop Peabody, Washington, D. C.

We were also delighted to have Mr. Murray Kornfeld, Executive Secretary, with us at this meeting. Everyone present was invited to enter freely in the discussion.

It was agreed that a Conference of Medical Directors and Medical Superintendents of Tuberculosis Sanatoria be sponsored by the Council on Sanatorium Standards and Administration.

Dr. J. Winthrop Peabody, Washington, D. C., was invited by the Council to address the first Conference. Dr. Peabody graciously accepted the invitation and the meeting was adjourned.

Benjamin L. Brock, M.D., Louisville, Kentucky, <i>Chairman</i>	
Russell S. Anderson, M.D., Erie, Pa.	J. B. McKnight, M.D., Sanatorium, Texas
I. D. Borrowitz, M.D., Otisville, N. Y.	Myron Miller, M.D., Columbus, Ohio
Merle D. Bonner, M.D., Jamestown, N. C.	Joseph R. Morrow, M.D., Ridgewood, N. J.
Kenneth G. Bulley, M.D., Aurora, Ill.	Harry C. Warren, M.D., San Francisco, Calif.

Upon motion by Dr. Mark, seconded by Dr. Ogden, this report was accepted by the Board of Regents.

Report of the National Council of Tuberculosis Committees

Since the publication of our last report, we are pleased to inform the Board of Regents of the College that the President of the Medical Society of the State of West Virginia has been authorized by the House of Delegates to appoint a Tuberculosis Committee.

We have, on the other hand, received advice from the Regent of the College for the State of New York that the Subcommittee on Diseases of the Chest, which was established several years ago by the New York State Medical Society, has been abolished. This Subcommittee on Diseases of the Chest was approved by the New York State Medical Society after considerable effort by Dr. Nelson W. Strohm, then Governor of the College for the state and now a member of this Board.

In accordance with our latest information, there are tuberculosis committees in 42 states and the District of Columbia.

The organization of tuberculosis committees within state medical societies was undertaken by the American College of Chest Physicians in 1939, and the National Council of Tuberculosis Committees which has functioned during the past five years has stimulated their organization in those states which had not up to that date appointed such committees. We hope that in the near future, our council will be able to report that a tuberculosis committee has been made a part of every state medical society in this country. The next objective will be to have similar committees established in the county medical societies, and particularly so, in the larger counties and cities. Through this plan of organization, many more physicians will be brought into the tuberculosis program sponsored by the American College of Chest Physicians.

James H. Stygall, M.D., Indianapolis, Indiana, *Chairman*

Arnold S. Anderson, M.D., St. Petersburg, Fla.

James F. Brewer, M.D., New Bedford, Mass.

D. W. Heusinkveld, M.D., Cincinnati, Ohio

Robert G. McCorkle, M.D., San Antonio, Texas

John S. Packard, M.D., Allenwood, Pa.

S. A. Parowski, M.D., San Diego, Calif.

John K. Shumate, M.D., Madison, Wis.

Nelson W. Strohm, M.D., Buffalo, N. Y.

Upon motion by Dr. Banyai, seconded by Dr. Marcy, this report was accepted by the Board of Regents.

Report of the Chairman of the Board of Governors

I am happy to bring to the members of the Board of Regents of the College assembled here in annual session, the greetings of the Governors of the College from the 48 states, the District of Columbia, and from our Governors in the various other countries.

Because the annual meeting for this year could not be held, it will be necessary that the activities of the Governors of the College be conducted through the mails. A mimeographed release has been prepared at the Executive Offices of the College and approved by the President of the College for distribution by the Governors to members and

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prospective members in their respective states. Each of the Governors in this country has been mailed a copy of the release and additional copies may be obtained by writing to the Executive Offices of the College at Chicago.

I would like to report for the Michigan Chapter that we have had a very active year and should the state medical society meet this year, the Michigan Chapter of the College will meet with them.

I shall be happy to report to the Governors of the College on the excellence of the meeting of the Board of Regents and the wonderful progress which the College is making.

William A. Hudson, M.D.,
Detroit, Michigan, *Chairman*

Moved for adoption by Dr. Banyai, seconded by Dr. Strohm.

Report of the Conference of College Chapter Officials

The Conference of College Chapter Officials was organized in 1943 for the purpose of coordinating the activities of the College chapters and to present a uniform program which could be adopted by all of the College chapters.

The first Conference was held at Cincinnati in November, 1943 and Dr. Minas Joannides, of the Illinois Chapter, was elected as the first Chairman of the Conference. Dr. Merle D. Bonner, North Carolina, representing the Southern Chapter, was elected the Secretary of the Conference.

The second Conference of College Chapter Officials was held at Chicago in June, 1944 and this session was attended by 56 College chapter officials and guests. The Conference was addressed by Dr. Milton Sills Lloyd, New York City, who spoke on "The Chest Specialist: His Training and Services."

A plan to establish committees within the structure of the College chapters to cooperate with the national councils and committees of the College has made good progress and those chapters which have not as yet set up these committees are being urged to do so at the earliest possible date. The committees in some of the chapters are active and it is hoped that all of the committees will soon begin functioning.

The Secretary-Treasurer of each College chapter submits a financial report annually to the executive offices of the College. The Conference will appoint a committee to study these financial reports and they will make recommendations for the use of chapter funds.

Attached to this report you will find a list of the College chapters together with the dates of their organization.

Alvis E. Greer, M.D., Houston, Texas, *Chairman*
Arthur Q. Penta, M.D., Schenectady, New York, *Secretary*

Upon motion by Dr. Mark, seconded by Dr. Turner, this report was accepted by the Board of Regents.

<i>Chapter</i>	<i>Date of Organization</i>
1. Illinois	May 21, 1940
2. New York State	June 10, 1940
3. New Jersey	June 10, 1940
4. Cuba	December 24, 1940
5. Missouri	April 29, 1941
6. Texas	May 13, 1941
7. Pennsylvania	June 2, 1941
8. Ohio	June 2, 1941
9. Indiana	September 24, 1941
10. Southwestern States	November 19, 1941
11. California	December 12, 1941
12. Michigan	January 20, 1942
13. New England States	May 18, 1942
14. Brazil	November 13, 1942
15. Puerto Rico	January 31, 1943
16. Mexico	September 9, 1943
17. Southern States	November 18, 1943
18. North Midwest States	April 15, 1944
19. Argentina	April 29, 1944
20. Georgia	May 11, 1944
21. Peru	August 13, 1944
22. Wisconsin	September 17, 1944
23. Rocky Mountain States	Sept. 27, 1944
24. Pacific Northwest States	Jan. 22, 1945

Greetings from Canada

Mr. Chairman and members of the Board of Regents of the College, I am very glad to be here. In talking with Mr. Murray Kornfeld, Executive Secretary of the College, I venture to say that I was pleased with the increased membership in Canada. We are still looking forward to an enlargement of our Canadian membership. Because of the war and restricted travel, only five or six Canadians have had the opportunity to attend the annual meetings of the College, but I am certain that with better travel conditions, many more of our Canadian members will attend the annual sessions of the College. I also venture to say that I am quite proud of the fine caliber of our members and when you meet them you will be proud of them too.

William C. Ogden, M.D.,
Toronto, Canada, *Regent*.

Report of the Committee on Public Relations

The Committee on Public Relations of the American College of Chest Physicians has confined its program to obtaining mention of College activities in recognized state, national and foreign medical journals. During the past year, ending June 1, 1945, articles concerning the activities of the American College of Chest Physicians have appeared in the following journals:

State Medical Journals	75 notices
Journal of the American Medical Association	8 notices
Other national medical journals	14 notices
Foreign medical journals	20 notices

TOTAL 117 notices

Note: Mention of the American College of Chest Physicians was also made in an article by Dr. Evarts A. Graham, published in the Saturday Evening Post, January 27, 1945.

Edward P. Eglee, M.D., New York, New York, *Chairman*
Champ H. Holmes, M.D., Atlanta, Ga. John Roberts Phillips, M.D., Houston, Texas
Robinson Bosworth, M.D., E. St. Louis, Ill. William C. Voorsanger, M.D., San Francisco, Calif.

Upon motion by Dr. Peabody and seconded by Dr. Strohm, this report was accepted by the Board of Regents.

Report of the Council on Pan American Affairs

Two of the three delegates who were authorized by the Board of Regents to represent the American College of Chest Physicians at the meeting of the "Sixth Pan American Congress on Tuberculosis" (ULAST), at Havana, Cuba, in January, 1945, attended the meeting. Dr. Jay Arthur Myers, the third delegate, was unable to complete traveling arrangements. In addition to your chairman and Mr. Murray Kornfeld, Executive Secretary of the College, the meeting was attended by Dr. Leo Eloesser, Vice-Chairman of the Council on Pan American Affairs, San Francisco, Dr. J. Winthrop Peabody, Regent of the College, and Dr. Herman E. Hilleboe, Governor of the College for the U. S. Public Health Service, Washington, D. C. A complete report of the meeting, together with the activities of the Council on Pan American Affairs of the College has been published in the College journal, *Diseases of the Chest*, (March-April, 1945, Vol. XI, No. 2).

Chevalier L. Jackson, M.D.,
Philadelphia, Pa., *Chairman*

Upon motion by Dr. Mark, seconded by Dr. Hayes, this report was accepted by the Board of Regents.

Report of the Committee on the Management and Treatment of Diseases of the Chest

When the Committee on the Management and Treatment of Chest Diseases first began to function in the summer of 1944, a certain amount of correspondence took place between the members of this committee and the chairmen of the various sub-committees with the idea that a number of intangible factors, points requiring clarification would be thrown open for discussion and that shortly after the first of the year there would be a chance at a national or regional meeting for all of

us to get together and work out a functioning program around the table. Circumstances have made this impossible, and we feel that it has been a serious handicap to the proper functioning of our group.

We had the choice of two modes of attack in the beginning. We could have functioned as the customary fact-finding committee collecting a large mass of statistics which could be added to the large mass of statistics already in existence and which we do not believe would add a great deal to the many perplexing problems in the management of chest diseases. We have been struck by the fact that there is no uniformity of terminology or of criteria among the group of men handling diseases of the chest. In tuberculosis, for instance, a search through the literature revealed an enormous number of suggested classifications from the early days up to the recent issue of our journal, and each of these authors felt that re-classification was necessary since the subject was in a state of considerable confusion. The accepted classification of the National Tuberculosis Association—minimal, moderately advanced, and far advanced—has done little to clarify this situation. Only recently has a paper appeared in the *American Review of Tuberculosis* by Reisner and Downes on a follow-up of the so-called minimal tuberculosis.

He found that he could break this group up into four sections in whom the prognosis as to progression varied from 59 to 3 per cent. Furthermore, the wide variation in course and in treatment both with and without collapse therapy in the so-called moderately advanced tuberculosis has been noted for some time. Dr. Rabukhin, writing in *Problems of Tuberculosis*, after collecting statistics all over the world as to the result of pneumothorax and finding the percentage of favorable results varied from 7 to 76 per cent, reports that he was unable to do any comparative study since the criteria of diagnosis, therapy, and prognosis varied to such an extent that it was impossible to find a common ground.

The advent of chemotherapy has further complicated the picture. If we follow the figures of Reisner, it is quite possible to have a difference of more than 50 per cent between two groups of minimal tuberculosis treated with a drug that has no effect on the disease tuberculosis, if the selection of cases happened to fall into two separate classes.

Consequently, we felt that if we were to develop a constructive program for a committee whose work would have such a wide scope, it would be necessary to avoid the obvious difficulties and confusions which have occurred in the past. Our first step would be that of classification—first of tuberculosis, and second of other chest diseases, to establish definite criteria of management. Such a classification would have to clarify to the point of general usefulness the following subjects: 1) diagnosis; 2) prognosis as to life if not as to the course of the disease; 3) following the above two, the indications or necessity for any treatment or type of therapy. Following that, if this work should be successful, the next step would be to determine definite and acceptable criteria as to the result of therapy and the determination of what might be considered a successful or unsuccessful treatment. This is obviously a long term project, a project in which this committee will of necessity merely correlate, regulate, and interpret the opinions and experience of the membership of the College and produce, by this refining process, a formula that would be acceptable since it will have come out of the membership rather than have been imposed upon them.

We do not believe that this work should be hurried, nor do we believe that any group can sit around a table and arrive at a satisfactory solution to a problem that has confused the entire profession for a longer time than our pride will let us admit.

We have reached this point in our decision. As regards tuberculosis, at least, we must consider not only the extent of the lesion, not only its duration, but also the type of pathology with which we are dealing. An exhaustive study of classifications has led us to recommend that our starting point should be that suggested by Ornstein and Ulmar in 1931. This makes a major distinction between lesions marked by exudation and the isolated, nodular lesions whose primary characteristic is a fibrous capsule.

We know from our own experience as well as from the literature that the future of a soft exudation is considerably different and much more indefinite than that of a nodular lesion. We believe that this fact should be taken into consideration definitely and absolutely in determining criteria of any sort. We know from our own experience and from the reported experience of others that exudative lesions may resolve or may break down spontaneously and without regard to treatment. We feel that this fact is sufficiently important to be noted and that some method of determination of the course of the disease must be included in our critical set-up. Even in this small part of the problem that we have set up for ourselves we have already come to seek advice and aid from the general membership. Does this type of division of lesions meet with the general approval, or have we failed to include some other equally important aspect in our discussion? The steps that lie ahead of us are these, and therein lies the work of the sub-committees:

1) The application of diagnostic and prognostic criteria to surgical procedures, non-surgical-collapse, and chemotherapy; 2) the study of comparative groups of treated and untreated cases and cases treated by different means; 3) the establishment of criteria by which various therapeutic procedures should be judged; 4) and in addition to that, we will have the study and discussion of the place of rest in the treatment of tuberculosis—how it may be used and how it may be abused; 5) and the study of re-building and rehabilitation—when it should be begun, and what type of program is most desirable.

This is a program which expands and grows and which in the course of its development should yield really valuable information. We are not yet at a point where fact-finding or collected statistics will be of any value. That will come at whatever point it is decided that such statistics can be properly interpreted.

We trust that such a plan, as is above outlined, will meet with the approval and merit the support of the Board of Regents and of the entire fellowship of the College. We trust that we shall be able to carry this project from the period of planning to the period of work and development and finally to completion. And we trust that our completed product will be of real value in the management and treatment of diseases of the chest.

Edwin Rayner Levine, M.D., Chicago, Illinois, *Chairman*

Colonel John B. Grow, Denver, Colorado

Hillis L. Seay, M.D., Huntersville, N. C.

Upon motion by Dr. Ogden, seconded by Dr. Peabody, this report and the report of the Sub-committee on Chemotherapy and Allied Measures was accepted by the Board of Regents.

Report of the Sub-Committee on Chemotherapy and Allied Measures

Your committee on chemotherapy regrets exceedingly that, due to war time restrictions, it was unable to hold a meeting. In lieu of a personal get-together an attempt was made by correspondence to do two things. First, to suggest a few basic principles by which workers engaged in clinical investigation of chemotherapeutic agents in the treatment of tuberculosis in humans may be guided. Second, to correlate and summarize the results of the various clinical investigators of chemotherapy in tuberculosis during the past year which have come to our attention.

With regard to the first objective, the following standards of procedure are suggested:

First, before any drug is used in man, it must be thoroughly investigated in animals; this study to include both its therapeutic effectiveness and toxic reactions. The agent must have the ability to restrain, arrest or overcome well established tuberculosis in experiment animals.

Second, it must then be tried cautiously on patients whose consent for such trial has been obtained after fully acquainting them as to the purpose and possible dangers of such a study.

Third, the investigation should be done in an institution where adequate facilities for observation and laboratory studies are available.

Fourth, the fresh exudative lesion should be the one of choice for studying the effects of a chemotherapeutic agent. If a fresh exudative process is not favorably affected by the chemotherapy, we can scarcely expect an old fibroid-caseous lesion to respond. Bacteriological proof of tuberculosis should be present.

Fifth, it is very desirable to have a group of similar patients, not receiving chemotherapy, to serve as a control group.

Sixth—Dosage. A drug cannot be discarded as being ineffective until ample trial of its maximal tolerated dose proves it such. The method of administration should be similar to that which has achieved results in experimental animals.

Seventh, all cases receiving any collapse therapy should be excluded from those receiving the chemotherapy.

Eighth, chemotherapy should be administered for from 90 to 120 days with maximal tolerated dose. If the agent is beneficial there should be evidence of this benefit within that period of time.

Ninth, it is desirable for several sanatoria in different parts of the country to carry on studies simultaneously using in general the same technique of administration. In this way each drug could be evaluated in the shortest possible time.

Tenth, it is extremely important to avoid publicity in the lay press regarding any drug under investigation until its effectiveness is well established by thorough clinical trial.

It is difficult to summarize briefly the clinical results of the men investigating chemotherapeutic agents.

There has been a great deal of interest in Diasone as a chemotherapeutic agent during the past year and a half. In an endeavor to summarize the results of the different workers who have investigated Diasone clinically, this committee sent letters to these workers, asking their

impression as to the value, or lack of value of this drug in treating pulmonary tuberculosis. Of 22 such letters of inquiry, replies were received from 13 investigators. Eleven of the workers indicated that they could discern no definitely favorable results which could be attributed to the use of the drug. One worker reported slight but definite improvement due to the drug, and one worker reported definite beneficial results from the use of Diasone. It would seem, from the above reports that the search for a safe and effective chemotherapeutic agent in tuberculosis must be continued.

During the past year some interesting work has been reported regarding the results of nebulized Promin inhalation in combating tuberculous bronchial lesions. We will watch with extreme interest the reports of further similar investigations.

A recent clinical investigation of the sulfone compound, Promizole, (product of Parke, Davis & Company), to determine its value in pulmonary tuberculosis proved very disappointing. The complete report of this investigation has not as yet been published.

No recent reports regarding the clinical use of Promin in pulmonary tuberculosis have come to our attention, which would indicate that its status has changed materially in this respect. Though apparently of value in certain cases, it is too toxic for widespread general use.

Other compounds and agents are at present undergoing animal and laboratory investigation. Streptomycin, an anti-biotic, has been reported as having an inhibitory effect on experimental tuberculosis in guinea pigs. This and other agents showing promise will require careful clinical investigation.

With chemotherapy in tuberculosis in its present state of flux it is imperative that we remain open minded to each new advance, critical of unproved assertion, but alert to investigate and develop promising compounds. In view of the gains made in chemotherapy in recent years, we believe it is reasonable to assume that in time a drug or some other agent will be found which will be effective in combating tuberculosis in humans. In any event, investigators everywhere are under obligation to continue the search.

Karl H. Pfuetze, M.D., Cannon Falls, Minnesota, *Chairman*

Raphael A. Bendove, M.D., New York, N. Y.

Arthur Rest, M.D., Spivak, Colorado

Reuben Hoffman, M.D., Henryton, Md.

John V. Thompson, M.D., Indianapolis, Ind.

Report of the Ways and Means Committee

A matter which should occupy the attention of the members of the Board of Regents, as well as all other members of the College, is the obtaining of additional advertising from acceptable pharmaceutical and surgical supply houses for the College journal, "Diseases of the Chest".

Our committee urges every official and member of the College to point out to the detail men from these concerns who call upon them the advantages of advertising in the College journal. Our journal is read by more than 2600 chest specialists in 23 countries throughout the world, and any firm that has acceptable products which would be of interest to the chest specialists should be urged to advertise such products in "Diseases of the Chest". Not only should the detail men be acquainted

with the advertising possibilities of the College journal, but they should be urged to transmit this information to their advertising departments. The members of the College should follow up these contacts to make certain that the advertising possibilities of the College journal are brought to the attention of the proper officials of these various concerns.

What I am telling you here I have carried out in my own office, and, I dare say, with some success. This, however, is not a one-man job and we owe it to our College to get behind the College journal and obtain the needed advertising revenue so that the journal will become a self-supporting project. At the present time we are obliged to utilize College funds to subsidize the publishing of "Diseases of the Chest". We have many worthwhile projects for the use of our College funds and I am appealing to every member of the College to cooperate with the Ways and Means Committee of the journal and assist us in obtaining this additional advertising. I urge that you read carefully all of the advertisements now published in the journal and let these advertisers know that we appreciate their cooperation and support of our journal. It is only through this cooperation that we can expect the continued support of these advertisers. If the members of the Board of Regents or any of the members of the College have ideas which will in any way assist our committee in obtaining the needed revenue for the journal, I want to assure you that we will be most grateful to you for such advice and information.

J. Winthrop Peabody, M.D., Washington, D. C., *Chairman*

Edward W. Hayes, M.D., Monrovia, Calif.

Chevalier L. Jackson, M.D., Philadelphia, Pa.

Edgar Mayer, M.D., New York, N. Y.

H. I. Spector, M.D., St. Louis, Mo.

Dr. Mark moved the adoption of these plans by the Ways and Means Committee, seconded by Dr. Overholt, and carried unanimously.

Report of the Committee on Occupational Diseases of the Chest

A letter was sent to each of the Committee members and to all the Governors and Regents in the College of the United States asking them to send us a copy of the occupational disease laws of their states and also any comments or suggestions that they had. Of the 48 states in the Union, we received 21 reports regarding industrial or occupational disease laws and of these 10 had no occupational disease laws and the balance had laws which varied. Some were very complete and others only took in silicosis or some of the other occupational diseases. Some of the Regents or Governors wrote that occupational disease laws were contemplated in their states and some were being prepared, but that the laws have not as yet been passed.

Dr. Bradhy of New York writes: "The Committee can contact two or three chest physicians or industrial physicians or public health officers in each state to gain information and data on how the laws work out in practice. The project will be a new approach to an evaluation of Occupational Disease Administration." This suggestion is very good but you can realize how much work it would actually entail. It would require the cooperation of every physician in every state in the Union.

Dr. Minnig of Denver writes: "We have no industrial law pertaining to occupational diseases in Colorado. As you know, Colorado has a great many mines and there certainly is considerable silicosis." The Society in Colorado has appointed a committee, of which Dr. Louis V. Sands is the chairman, to work out suitable occupational disease laws. He states that he knows the Industrial Commission is very favorable towards an occupational disease law.

The work of this Committee has only begun and this report cannot give a complete picture of the present status in each state nor any suggestions as to what national occupational laws might be suggested. It will be necessary that we get a reply from every state in the Union and it will also be necessary to compile these various reports in complete form so that a uniform suggestion can be made.

It has been very difficult to carry on very much of this work during the past year because of the added work which we have taken on because of the war. Some of this Committee work must necessarily be postponed for the time being. However, we promise that in the coming year, an attempt will be made to compile the report submitted to all Committee members for their suggestions, and have the complete report with suggestions available at our next College meeting.

If any of the members of the College now in session have any suggestions regarding the occupational laws in their states, we would appreciate if they would send such suggestions to any member of the Committee so that they may be included in our future report.

Louis Mark, M.D., Columbus, Ohio, *Chairman*

William E. Chester, M.D., Detroit, Mich.

Leopold Bradhy, M.D., New York, N. Y.

J. V. Foster, M.D., Harrisburg, Pa.

R. L. Laney, M.D., Joplin, Missouri

W. Bernard Yegge, M.D., Denver, Colo.

Paul A. Turner, M.D., Louisville, Ky.

Upon motion by Dr. Strohm, seconded by Dr. Hayes, this report was accepted by the Board of Regents.

Report of the Committee on State Laws for Tuberculosis

In accordance with your kind endorsement at the meeting held at St. Louis in November 1944, the Committee on State Laws for Tuberculosis collected and reviewed the Health Laws and Statutes of the 48 states and the District of Columbia for the purpose of obtaining a preview of the management of the tuberculosis problem in general, and the care and treatment of open cases of pulmonary tuberculosis in particular.

Additional information was received through correspondence with Tuberculosis Controllers and State Health Officers in various parts of the country and with Fellows of the College who generously supplied us with pertinent reports.

The analysis of this data permitted us to compile a summary, the outline of which is herewith respectfully submitted to the Board of Regents.

It is gratifying to note that specific laws for the isolation of recalcitrant open cases of tuberculosis have been enacted in 22 states and in the District of Columbia. In addition, in five states compulsory isolation of uncooperative tuberculous patients is being carried out under

General Health Laws which pertain to the control of communicable diseases. This means that there are adequate laws for the protection of the community from known tuberculosis carriers in 27 of our states and also in the District of Columbia.

However, this data is presented with the qualification that, for various plausible reasons which are too lengthy to be discussed at this time, in none of these states is the enforcement of these laws being carried out on a large scale.

In some of the above mentioned states other preventive measures are also invoked, such as a quarantine of the patient or placarding his home.

Furthermore, we have found that only a quarantine of the patient is carried out in three states, and only placarding of the patient's home in one state. In four states attempts are being made to handle this whole issue under the general health laws, but without enforcing isolation.

In the remainder of the states, there are no special laws for the segregation of tuberculous patients who are a menace to the community, first, because their disease is in the communicable stage, and secondly, because they are careless and negligent as far as the protection of the health of others is concerned.

The original State Laws and Statutes we have gathered are available for the membership of the College through the office of the Executive Secretary.

The original compilation of the Tuberculosis Laws with annotations as prepared by this Committee could be made available for the Fellows of the College and for all others who are interested in this subject, provided it is authorized by the Board of Regents.

Andrew L. Banyai, M.D., Wauwatosa, Wisconsin, *Chairman*
Joseph E. Blum, Jr., M.D., Greenwell Springs, La. Willard B. Howes, M.D., Detroit, Mich.
J. George Lang, M.D., New York, New York

Upon motion by Dr. Mark, seconded by Dr. Turner, this report was accepted by the Board of Regents.

Report of the Scientific Program Committee

Inasmuch as there could be no annual meeting of the College this year, our plans for the scientific program which were being developed will be carried over for the next annual meeting. We will direct all our efforts into making this program one of excellence so as to retain the reputation of the College for its high standards in the presentation of scientific programs.

Minas Joannides, M.D., Chicago, Illinois, *Chairman*
Maj. Gen. S. U. Marietta, U.S.A., Washington, D. C. Ralph C. Matson, M.D., Portland, Ore.

Upon motion by Dr. Overholt, seconded by Dr. Mark, this report was accepted by the Board of Regents.

Memorandum to the Board of Regents

The American College of Chest Physicians

At the last meeting of the American College of Chest Physicians in session at Chicago, Illinois, Dr. Jerome S. Peterson of New York City and I were so much impressed with the sympathetic attention given to the Negro tuberculosis program that we were inspired to call it to the attention of many other physicians of our group. As a result of personal conference and correspondence it was decided that we ask the Board of Regents to urge the College to manifest some special interest in the tuberculosis problem of the Negro.

In the past 40 years among the white group tuberculosis has been reduced as a cause of death from 1st to 7th place. During the same period the Negro group has been able to reduce tuberculosis from 1st to 2nd place. This disparity in the mortality rates of the two groups is so great that it is obvious that the Negro's plight warrants concentrated effort. In the 1940 Census, Negroes comprised 9.8 per cent of the total population. Of 60,428 deaths from tuberculosis (all forms), 15,883 deaths or 26 per cent were Negroes. With these 15,883 deaths from tuberculosis, only 7,066 beds were available. In view of the high morbidity and mortality rates from tuberculosis among Negroes we urge that the quota system be discarded and provisions be made to hospitalize patients, white and Negro, on the basis of mortality and morbidity rates of a given area.

We note with interest the Thomas-Bulwinkle Bill designed to create a Division of Tuberculosis Control within the U. S. P. H. S. with an appropriation of \$10,000,000 for the work. We sincerely hope that the College can find it possible to urge that a relative portion of these funds be used among Negroes where so large a part of the tuberculosis problem exists. It is further desired that competent Negro personnel participate in the administration of this division. Since the eventual control and eradication of tuberculosis depends in a large measure upon early diagnosis, adequate training of the Negro physician is prerequisite No. 1. This training can be secured in part as follows:

1. The Tuberculosis Institutes conducted by the National Tuberculosis Association. These Institutes are doing a Herculean job but are handicapped by the lack of a sufficient number of men trained in the field of tuberculosis.
2. Assistance and support for undergraduate training at Howard University Medical School and Meharry Medical College will aid the young doctor to start out more tuberculosis conscious.
3. Admission of the Negro physicians to staffs of existing tuberculosis hospitals will offer an excellent opportunity for their development and training in clinical tuberculosis and in case finding. This can be arranged according to local conditions with great benefits to all.
4. Finally, we plead for the selection of several strategic centers prepared for a long range program of training for Negro physicians. First, a 5 year plan whereby an adequate number of men be trained in chest Roentgenology and Pneumothorax, and a second 5 year plan devoted to training a desired number of men in Bronchoscopy and Chest Surgery.

The situation at Meharry Medical College is an illustration of the need for concentrated effort by groups and individuals. During the year 1943-44, 252 students were enrolled in the Medical Department. Eight clinical beds, occasional use of 6 semi-private beds and a small chest clinic offer all the opportunity that they have in securing clinical training in the diagnosis and treatment of tuberculosis in this country. The gigantic burden of combatting these nearly 16,000 deaths from tuberculosis among Negroes now rests mainly upon the shoulders of inadequately trained Negro physicians. That lack of thorough training and experience in early diagnosis and detection is a definite factor in the disproportion shown by statistics in the diseases cannot be doubted.

In the capacity of a domestic servant the Negro is apt to be a potential carrier of dangerous, yet unsuspected, active tuberculosis. Of the 4,479,068 employed Negroes in the United States in 1940, 1,003,508 or 22 per cent were employed in domestic service. The tuberculous Negro is not only a menace to his own but to the white group as well.

The College could do much toward improving training opportunities for preparing the Negro physician by advocating more Fellowships and opportunities for training men to conduct the Tuberculosis Institutes mentioned above and by urging its members who are engaged in hospital or dispensary administration to take on Negroes in house staff and visiting positions. We are eager to work side by side with you for the common good of all. We hope that this program will meet with your approval so that we may have a greater opportunity to serve all Americans.

William A. Beck, M.D.

Professor of Clinical Medicine
Meharry Medical College
Nashville, Tennessee

The above memorandum from Dr. Beck was referred to the Council on Public Health of the College.

College Award

BE IT RESOLVED: That the American College of Chest Physicians originate, prepare and bestow a medal or other honorarium upon a person or persons who have made an outstanding contribution in the field of chest diseases. These awards are to be made annually, whenever possible, and the ceremony in connection with the presentation of the award is to be conducted at the time of the annual meetings of the American College of Chest Physicians.

BE IT FURTHER RESOLVED: That the interest derived from the Endowment Fund of the American College of Chest Physicians, invested by the College in U. S. War Bonds or in other securities, be utilized to defray the cost of the awards. The President of the College is hereby authorized to appoint a committee of three or more members of the College whose duties it shall be to gather and submit plans to the Board of Regents for a suitable medal or other honorarium.

The above resolution was moved for adoption by Dr. Holinger, seconded by Dr. Peabody, and unanimously passed by the Board of Regents.

Resolutions

FELLOWSHIP CERTIFICATES

BE IT RESOLVED: That the Chairman of the Board of Regents of the College notify all new Fellows who are to receive their Fellowship Certificates to present themselves in person at the annual meeting of the College to be held in 1946 for the purpose of participating in the Convocation exercises and receiving their Fellowship Certificates.

BE IT FURTHER RESOLVED: That in the event the meeting for the year 1946 be cancelled that the Chairman of the Board of Regents through the office of the Executive Secretary of the College be authorized to present the certificates through the mail to all Fellows who are entitled to receive same.

Upon motion by Dr. Hayes, seconded by Dr. Holinger, the above resolution was adopted by the Board of Regents.

The following physicians passed the written examination for Fellowship in the American College of Chest Physicians which was held in June, 1945:

Adams, Ralph H., Boston, Mass.
 Anderson, Norman L., Black Mountain, N. C.
 Biber, David, Union, N. J.
 Brasher, Charles A., Mt. Vernon, Mo.
 Briggs, John F., St. Paul, Minn.
 Caldwell, David M., Pittsburgh, Pa.
 Challen, Alice A., Alameda, Calif.
 Cremer, J. A., Denver, Colo.
 Crist, Charles G., Gettysburg, Pa.
 Cutler, Herman S., Staten Island, N. Y.
 DePinto, Dominic A., Chicago, Illinois
 Diamond, Norman, Bronx, New York
 Edwards, Howard K., Miami, Florida
 Greenwell, James O., Redwood City, Calif.
 Hammitt, F. C., Peoria, Illinois
 Harkness, James T., Berkeley, Calif.
 Hirsh, Leon H., Milwaukee, Wisc.
 Hudson, Henry A., Marblehead, Mass.
 Katz, Harry L., Fort Dix, N. J.
 Klosk, Emanuel, Newark, N. J.
 Latz, Leo J., Chicago, Illinois
 Loewen, David F., Decatur, Illinois
 McCracken, Robert, Nashville, Tenn.
 Milham, Claude G., Hamlet, N. C.
 Sherman, David, Brookline, Mass.
 Stemmerman, Marguerite, Huntington, W. Va.
 Taugher, Lawrence, Louisville, Ky.
 Waterman, David H., Knoxville, Tenn.
 Weissman, Herman, Legion, Texas
 Yellin, Daniel, San Francisco, Calif.
 Young, Henry, New York, N. Y.

	Candidates	Per Cent
Passed	31	82%
Failed	7	18%
TOTAL	38	100%

H. I. Spector, M.D., St. Louis, Mo., Chairman, Board of Examiners

Edward W. Hayes, M.D., Monrovia, Calif.

William F. Rienhoff, Jr., M.D., Baltimore, Md.

College Chapter News

ILLINOIS CHAPTER

The Illinois Chapter of the American College of Chest Physicians cooperated with the British Information Services in presenting a film on "Surgery in Chest Diseases" at the International Relations Center, Chicago, Illinois, August 29, 1945.

ARGENTINA CHAPTER

Professor Raul F. Vaccarezza, F.C.C.P., Buenos Aires, Governor of the College for Argentina, has been elected President of the First Argentine Congress of Phthisiology which will be held in Buenos Aires, November 25-30, 1945. Dr. Tomas de Villafane Lastra, F.C.C.P., Cordoba, and Dr. Antonio Cetrangolo, Buenos Aires, were elected Vice Presidents. Dr. Guido Pollitzer, F.C.C.P., Buenos Aires, was elected Secretary of this Congress.

Dr. Jose Peroncini, Buenos Aires, has been appointed by the government as Chief of the Anti-tuberculosis Bureau, a branch of the National Department of Public Health.

BRAZIL CHAPTER CONDUCTS POSTGRADUATE COURSE

Under the auspices of the Brazilian Chapter of the American College of Chest Physicians, a postgraduate course on tuberculosis was given by the members of the Tuberculosis Services of the Policlinic General Hospital of Rio de Janeiro. Participating in the course were Profs. Affonso MacDowell, F.C.C.P., Samuel Libanio, F.C.C.P., Aresky Amorim, F.C.C.P., Manuel de Abreu, Reginaldo Fernandes, F.C.C.P., and E. Somogyi Senior. Also participating in the course were Drs. MacDowell Filho, Olimpio Gomes, Joao Vizella, Carvalho Ferreira, Henri Jouval, Paulo Marchese, and Erotides A. Nascimento. The course was for a period of three months.

College News Notes

Dr. Leo Eloesser, F.C.C.P., San Francisco, was one of four American physicians recently to receive honorary membership in the Comité Nacional de Lucha Contra la Tuberculosis, Mexico.

Lt. Col. Brian B. Blades, F.C.C.P., St. Louis, Chief of the Thoracic Surgical Section of Walter Reed General Hospital, Washington, D. C., has been appointed consultant to The Surgeon General in thoracic surgery.

Dr. Evarts A. Graham, F.C.C.P., St. Louis, Missouri, was a member of a committee which on May 31 called on the President of the United States in order to present to him a memorandum dealing with the supply of premedical and medical students, and physicians. Attention was

called to the increased need of physicians by the civilian population, the Veterans Administration and the armed forces in the years to come. Within the next year the number of admissions of freshmen to medical schools will be reduced by about 5,000 because of the existing policies, and a corresponding reduction in the available physicians will follow. A complete memorandum is being forwarded directly to the President at his request in order to place all the facts before him.

Dr. Alton Ochsner, F.C.C.P., New Orleans, Louisiana, presented a paper on "Surgical Treatment of Empyema" at the DeWitt General Hospital, Auburn, California, September 15, 1945.

Lt. Col. Leo V. Schneider, F.C.C.P., Glenn Dale, Maryland, was recently appointed Chief of Industrial Medicine at the New York Port of Embarkation.

Commander A. Worth Hobby (MC) USNR, F.C.C.P., Atlanta, Georgia, discussed "Pulmonary Tuberculosis" before the Wartime Graduate Medical Meeting held at the U. S. Naval Hospital, Corona, California on August 9th.

Dr. Edwin J. Simons, F.C.C.P., Swanville, Minnesota, was elected President of the Minnesota State Medical Association at a meeting of the House of Delegates at St. Paul, May 19-20. He will take office on January 1, 1946.

Dr. Nelson W. Strohm, F.C.C.P., Buffalo, New York, Regent of the College, was appointed to the Medical Committee on Grievances by the State Board of Regents of the New York State Department of Education.

Dr. Forrest J. Pinkerton, Honolulu, Chairman of the Public Health Committee for Honolulu, has announced the formulation of a plan to coordinate all of the public health activities in Honolulu through the Public Health Committee.

Dr. U. E. Zambarano, F.C.C.P., Providence, Governor of the College for Rhode Island, discussed "Tuberculosis in Industry and the Efforts Being Made Toward the Discovery, Prevention, and Spread of this Disease" at the New England Conference of the American Association of Industrial Physicians and Surgeons, Pawtucket, Rhode Island, May 2, 1945.

Dr. Paul H. Holinger, F.C.C.P., Chicago, discussed "Bronchoscopic Diagnosis and Approach to Tumors of the Chest," and Dr. Willard Van Hazel, F.C.C.P., Chicago, discussed "Surgical Treatment of the Chest" at a meeting of the Racine County Medical Society, Racine, Wisconsin, on April 26, 1945.

Dr. H. H. Christiansen, F.C.C.P., Wausau, Wisconsin, lectured on "The Treatment of Advanced Tuberculosis" at the meeting of the Wisconsin Surgical Club held at St. Mary's Hospital, Wausau, on June 16.

Dr. Frank R. Ferlaine, New York City, discussed "Recent Developments in the Use of Penicillin and the Newer Anti-biotics in the Treatment of Infections" before the Franklin County Medical Society at Saranac Lake.

Dr. James L. Mudd, F.C.C.P., St. Louis, Missouri, presented a paper on "Empyema" at the annual meeting of the Iowa-Illinois Central District Medical Association held at Davenport, Iowa, May 24, 1945.

WEST VIRGINIA APPOINTS TUBERCULOSIS COMMITTEE

The National Council of Tuberculosis Committees of the American College of Chest Physicians is pleased to announce that the By-Laws of the West Virginia State Medical Association were amended to provide for the appointment of a standing committee on tuberculosis. The following physicians were appointed to serve as members of the Tuberculosis Committee of the West Virginia Medical Association:

Dr. David Salkin, F.C.C.P., Hopemont, *Chairman*

Dr. E. T. Goff, F.C.C.P., Parkersburg

Dr. J. N. Reeves, Charleston

Dr. G. E. Gwinn, F.C.C.P., Beckley

Dr. Elizabeth McFetridge, Shepherdstown

CONGRESS APPROPRIATES SIX MILLION DOLLARS FOR TUBERCULOSIS CONTROL

The sum of \$6,047,000 was appropriated by Congress for tuberculosis control according to Public Law 410-78th Congress, Section 314-b for the fiscal year ending June 30, 1946. This sum will be expended under the Tuberculosis Control Division of the U. S. Public Health Service.

Of this amount \$5,200,000 is to be used for grants to States to develop their field control program exclusive of the construction and maintenance of sanatoria during this first full year of operation. The remaining \$847,000 is to be used for research in all fields of tuberculosis control, demonstration of tuberculosis control by means of 20 field units (including complete x-ray equipment for mass radiography, a medical officer, a nurse, two technicians, and a record analyst). These units are loaned to State and local health departments to demonstrate case-finding and follow-up in those areas which do not have the personnel and facilities. Additional studies are carried on in the field of radiology, case-finding, medical care, after care, and follow-up.

Dr. Herman E. Hilleboe, F.C.C.P., Medical Director, Chief, Tuberculosis Control Division, Washington, D. C., will be in charge of this program.

STALINGRAD REESTABLISHES TUBERCULOSIS HOSPITAL

The Germans destroyed every hospital in the Stalingrad region. Since then, a tuberculosis hospital with 100 beds and a regional tuberculosis dispensary have been reestablished and are again functioning. Within the first few months after liberation of Stalingrad 286 doctors and 224 nurses and doctors assistants were sent to Stalingrad. Large quantities

of essential medical equipment were supplied including four x-ray machines, 21 ambulances, and 42,000 rubles worth of surgical instruments and other supplies.

The State granted huge sums for health protection measures, Expenditures on capital repairs and the restoration of the wrecked medical network in 1943 amounted to 1,485,000 rubles; in 1944, 4,440,000 rubles and in 1945, 2,957,000 rubles. Expenditures on new construction in 1943 were 5,526,000 rubles, in 1944, 4,970,000 rubles; and in 1945, 4,900,000 rubles.

PHILIPPINE RELIEF

Requests have been received from Fellows of the College in the Philippines for medical and surgical equipment needed by them to reestablish their offices and clinics. The Japanese invaders have pillaged and destroyed all of the equipment in the doctors' offices and there is dire need for pneumothorax apparatus, fluoroscopic and x-ray equipment, surgical instruments and other medical equipment and supplies. If any of the members of the College can donate used equipment or if they wish to contribute to a fund for the purchase of used equipment to be shipped to the Fellows of the College in the Philippines, kindly communicate with Dr. Joseph C. Placak, F.C.C.P., 10515 Carnegie Avenue, Cleveland, Ohio, Chairman of the College Committee for Philippine Relief. Checks should be made payable to Dr. Joseph C. Placak, Chairman of the Committee for Philippine Relief.

SPECIAL ISSUE OF JOURNAL

The November-December issue of the journal will be a special issue to commemorate the 50th anniversary of the discovery of the x-ray by Konrad Roentgen. The issue is being compiled under the direction of Dr. Andrew L. Banyai, F.C.C.P., Wauwatosa, Wisconsin and the following articles will appear:

"The Roentgen Ray—Its Past and Future," by Dr. Russel H. Morgan and Dr. Ira Lewis, United States Public Health Service.

"Roentgen Visualization of the Lesser Circulation, or Roentgen Visualization of the Reticuloendothelial System of the Lung," by Dr. C. C. Macklin, University of Western Ontario, London, Canada.

"Radiological Anatomy of Segmental Lesions of the Lung," by Dr. Clifford Hoyle, Editor of the British Journal of Tuberculosis and Diseases of the Chest, and Dr. Foster Carter, London, England.

"Oblique and Lateral Views of the Chest in Roentgenological Diagnosis," by Dr. Samuel Brown, University of Cincinnati.

"Benign Tumors of the Pulmonary Apex, Their Roentgenological Diagnosis," by Dr. L. W. Paul, University of Wisconsin.

"Clinical Value of Angiocardiography," by Dr. Henry K. Taylor, New York City.

"Roentgen Treatment for Hodgkin's Disease and Lymphosarcoma of the Chest," by Dr. A. U. Desjardins, Mayo Clinic, Rochester, Minn.

Orders for additional copies of this issue of the journal should be placed as early as possible.

**MEDICAL SERVICE BUREAU ESTABLISHED
AT COLLEGE HEADQUARTERS**

In accordance with a resolution adopted by the Board of Regents of the College at their annual meeting held in Chicago on June 17, 1945, a Medical Service Bureau has been established at the Executive Offices of the College for the purpose of serving the members of the College being released from the armed forces.

The Bureau would appreciate receiving information from the medical superintendents of sanatoria regarding positions available at their institutions, together with full particulars as to the type of position and salary offered. Fellows of the College who are looking for assistants should send complete information to the Bureau.

Physicians being released from the armed forces who are seeking appointments and positions should send complete information to the Bureau regarding their training and the type of position desired.

Please direct all correspondence to the Medical Service Bureau, American College of Chest Physicians, 500 North Dearborn St., Chicago 10, Illinois.

Obituary

WILLIAM FREDERICK BENNETT

1877 — 1945

Dr. William Frederick Bennett died of a cerebral apoplexy at Verona, New Jersey, where he was first assistant physician at the Essex Mountain Sanatorium. He was born on September 28, 1877 at West Nanticoke, Pennsylvania. He attended the Harry Hillman Academy at Wilkesbarre, Pennsylvania and the University of Pennsylvania Medical School. Dr. Bennett interned at the Wilkesbarre City Hospital and later entered private practice at Scranton. After the period spent in private practice, Dr. Bennett became interested in state clinics and spent some time at the Pennsylvania State Sanatorium for Tuberculosis at Hamburg. In 1923 he joined the staff of the Essex Mountain Sanatorium and became first assistant physician there in 1928, where he remained up until the time of his death.

Dr. Bennett was a Fellow of the American College of Chest Physicians and also a member of the American Medical Association, the Essex County Medical Association, Delta Epsilon Fraternity, the Masons and the Elks. He was not married and had no immediate relatives.

Marcus M. Newcomb, M.D., *Governor*
American College of Chest Physicians.

Abstracts

PROBLEMS OF TUBERCULOSIS, No. 1, 1943

Narkomzdrzv S S S R Medghiz. Mosva

- T. P. Krasnobaev. "Twenty-five years of the struggle against osteo-articular tuberculosis in the Soviet Union." P. 23.
- *A. E. Rabukhin. "Information concerning the effectiveness of artificial pneumothorax." P. 30-38.
- A. E. Prozorov. "Roentgen diagnostics of the primary tuberculous pneumonia." P. 38.
- *F. A. Mikhailov and A. M. Lunkievich. "On the exceptional number of pleural pockets in initial artificial pneumothorax." Pp. 46-50.
- D. A. Manucharian. "On the indications to thoracoplastics in the tuberculosis." P. 50.
- *V. G. Stefko. "Pneumonia following wounds and other trauma." Pp. 53-59.
- F. L. Shpanir. "To the methods of the chemo-therapeutical experiments in tuberculosis." P. 59.
- *B. M. Gorodetsky. "On the surgical treatment of penetrating gunshot lesions of the thorax. (Preliminary communication)." Pp. 65-67.

Effectiveness of Artificial Pneumothorax.—The author presents a survey of the results of artificial pneumothorax from the literature. Roloff analyzed results of this treatment in 9,000 patients in various sanatoria, dispensaries, and hospitals in the United States, Russia, and Japan and could come to no definite conclusion. Results measured by clinical care and rehabilitation ranged from 7 to 66 per cent, improvement from 21 to 78 per cent, negative sputum from 21 to 38 per cent. It was impossible to make any comparison because of the wide variation and difference in the criteria for diagnosis and cure, the age, social condition, and the type of treatment. A group of Russian cases, 13,000 in number, were reported to have good results in 45 per cent of the cases.

This study was made on 2,102 adult tuberculosis patients who were observed for a long period in three dispensaries. Of these, 1741 were treated by unilateral and bilateral pneumothorax and kept under observation for at least one year. The remaining 361 patients did not receive artificial pneumothorax because of obliteration of the pleural cavities, or were treated for short periods of time (up to three months). This group served as a control. They did not differ markedly from the 1741 in age, sex, and background.

The bulk of the patients in both groups suffered from fresh and infiltrating forms of the disease and had had positive sputum not longer than three months before institution of the artificial pneumothorax. Unilateral disease was noted in 70.5 per cent of the treated cases and 77.3 per cent of the control cases and bilateral disease in 29.5 per cent of the treated cases and 22.7 per cent of the control cases. Regular sanatorium treatment was given more frequently in the control cases although the difference was not very great (60 per cent of the control cases and 40 per cent of the treated cases).

The author draws the following conclusions:

1. There is no advantage in administering artificial pneumothorax longer than 5 years as compared with treatment of 3 to 4 years' duration. In initial infiltrating pneumonic forms of tuberculosis, in the absence of pleural adhesions, and where bacilli disappear rapidly from the sputum, a possible therapeutic effect is obtained after artificial pneumothorax for 1½ to 2 years.
2. For deciding the length of time in which artificial pneumothorax is to be given, a strict evaluation of each individual case must be made. This should also be done when collapse therapy is used in elderly patients.
3. Advanced age is not a contraindication for pneumothorax. Most of the author's cases in this age period (90 patients were over 45 years of age) reacted as well as young persons and sometimes better. Nevertheless, the patients were selected, as much as possible, on the basis of having early, mostly infiltrating forms of tuberculosis, and strict attention was paid to the state of their cardiovascular system. Pneumothorax was not instituted in pronounced myocarditis, arteriosclerosis, emphysema, or diffuse prolonged bronchitis.

Pleural Pockets in Initial Artificial Pneumothorax.—In initial pneumothorax where no gas is instilled, it is frequently noted on the next examination that there is an accumulation of gas of greater or lesser extent in the pleural space. In another group of primary pneumothoraces where 300 to 250 c.c. of gas is used, a formation of large pockets of gas was noted frequently. Most authors have attributed this to a tear or penetration of the visceral pleura. This has been most frequently reported in bilateral pneumothorax although quantitative proof of the reason for the exceptional number frequently seen in this group have not as yet been given.

The authors performed experiments by the method of Auguste and Pluchar. This method is used to recognize a tear or a fistula through the visceral pleura. The technic is to insert into the pleural space some substance with a strong odor. In this case it was peppermint oil. If a bronchopleural fistula is present, the odor is detected on the breath of the patient.

This technic was done on 112 patients. Gas filtered through cotton saturated with mint oil was instilled into the pleural space. Patients were questioned as to the odor. Of the entire group of 112, oil was detected in 5 cases. The conclusion was drawn from this that the formation of large pneumothorax pockets following initial pneumothorax insufflation is caused by the diffusion of the sterile blood gases from the pleural capillaries and that this is not infected air from the bronchial system following trauma to the visceral pleura by the needle in pneumothorax.

Pneumonia Following Wounds.—From the author's own experience and from data from the literature, the following conclusions are drawn:

1. Pneumonia is quite a common complication of wounds.
2. Two anatomic-pathologic types of pneumonias can be distinguished:
 - a) the acute form with massive lysis of the lung tissue, mainly as a result of fermentative action of some anaerobes (*B. histolyticus*, *B. oedematus*) in association with other microbes, and
 - b) subacute, with a prolonged course, so-called "splenization" pneumonia, in which the process is localized in the lymphatics of the lung tissue.
3. From the microscopic point of view, in more than half of the cases, attention is drawn to the participation of the anaerobes, in different combinations (pathogens as well as non-pathogens) what in many respects explains the character of the lung tissue reaction.

Surgical Treatment of Penetrating Gunshot Lesions of the Thorax.—On the basis of the author's 60 cases, of which the average observation lasted for 11.2 days per patient, the following conclusions are derived:

1. Repeated suturing of open pneumothorax, beginning from the second day, is of no value.
 2. Blood in the pleural cavity can be aspirated, even in large amounts at one time, from the 4 - 5th day on.
 3. In the case of empyema and in the absence of bronchial fistulae, the pleural cavity can be washed with a 8:1000 solution of streptocide.
 4. Washing of the pleural cavity with streptocide is indicated also in the post-operative period when the temperature is high and the pus is not draining.
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Book Reviews

Radiation and Climatic Therapy of Chronic Pulmonary Diseases with Special Reference to Natural and Artificial Heliotherapy, X-Ray Therapy, and Climatic Therapy of Chronic Pulmonary Diseases and All Forms of Tuberculosis. Edited by Edgar Mayer, M.D., F.A.C.P., F.C.C.P., Assistant Professor of Clinical Medicine, Cornell University Medical College, New York. Cloth. Price \$5.00. Pp. 393, with illustrations. Baltimore: Williams and Wilkins Company, 1944.

This is a timely volume since the author has had a long experience in this field and is qualified to select the twenty-three authors who contributed the chapters dealing with the utilization of light, x-ray and climatological therapy in the treatment of chronic pulmonary diseases as well as all forms of tuberculosis.

Dr. Mayer presents an excellent summary of climate, x-ray and light therapy in the treatment of all types of chronic pulmonopathies. The book contains the latest and most authentic information on the subjects presented and is highly recommended to both the chest specialist and the general practitioner.

James T. Speros.

Diseases of the Chest by Robert Coope, M.D., B.Sc., F.R.C.P. 524 pages, 160 illustrations. The Williams and Wilkins Co., Baltimore. First Edition, 1944. Price, \$7.50.

This textbook is "Described for students and practitioners," and can be studied with profit by both. In a lucid style indicative of mastery of all phases of the subject the author correlates various aspects of pulmonary disease oftentimes considered in separate texts and courses, i.e., acute and chronic, medical and surgical. Likewise the concepts of bronchial physiology and finer anatomy in relation to such matters as collapse of the lung and obstructive emphysema are made to seem simple rather than mysterious.

The weary medical student will applaud Dr. Coope's courage in quietly disposing of Kronig's bands and Wintrich's tones, and his admirable clarification of such incidentals as the "Pancoast tumor" and "plastic bronchitis."

On the other hand student and practitioner alike may question the justification for devoting the better part of a chapter to an excellent description of the classical picture of essentially untreated pneumococcus lobar pneumonia, a pretty rare sight nowadays, but only two pages to sulfapyridine treatment, one paragraph to sulfathiazole and sulfadiazine, and practically no space to the clinical course of the disease under sulfa medication. The use of penicillin postdates the book.

The chapters on "The Pneumonias" are noteworthy writing nevertheless. The reader is moved to self-analysis by the author's caustic comments on the use of the terms "atypical pneumonia" and "pneumonitis" to cover the puzzlement of the man who sees x-ray shadows he does not understand.

It is in the chapters on bronchiectasis, lung abscess, and bronchial carcinoma that the author's breadth of experience is so apparent. His plea for "carcinoma consciousness" is a valuable contribution to medical education.

The chapter on chest injuries closely follows the author's book, "War Injuries of the Chest," hence is terse and timely. The sections on tuberculosis, pneumothorax, pleurisy, empyema, and asthma are in keeping with accepted thought.

There is an atlas of representative x-ray films. The diagrams are good, especially those illustrating the anatomy of the "respiratory districts." The format is commendable. It is a pleasure to recommend this book most highly.

Sheldon Domm, Lt. (jg) MC USNR.

Principles and Practices of Inhalational Therapy. By Alvan L. Barach, M.D. Publisher: J. B. Lippincott Company, Philadelphia, Pa. Price \$4.00.

This is a presentation of much importance to all those engaged and interested in a highly specialized field of therapeutics which, up until the present time has been somewhat neglected in book form. It is a far cry and a striking advance from the concepts of the ancients mentioned in the Berlin Papyrus until the present, which was that air was supposed to "travel by the arteries and on entering the nostrils was believed to penetrate to the heart and internal organs and to supply the whole blood abundantly."

As in the present, even then there was some confusion of ideas as exemplified by the idea that "there are four vessels for his two ears—the breath of life enters by his right ear and the breath of death by his left ear."

These misconceptions concerning oxygen, carbon dioxide, etc., and their utilization by the body have carried on right up until the present as a heritage bequeathed to us as a legacy—right down to our own grandmothers with their croup kettle, and to the lonely Indian on his reservation, inhaling steam from hot stones for typhoid fever.

Readers will find in the various chapters contained in the book, many of the results of modern researches in "Inhalational Therapy" correlated with their pathologic physiology and clinical application. Some of the chapters are brief owing to the difficulty in covering such a wide field, but this is compensated for by extensive bibliographic references. While some of the conclusions are based on too few cases, such as the statement that "five out of seven cases of advanced bilateral pulmonary tuberculosis achieved a state of complete arrest or clearing of active tuberculosis," the author, himself, forestalls a certain amount of criticism by stating elsewhere that "controlled investigation is unquestionably necessary to confirm many of the tentative conclusions advanced."

An adequate summarization of this book is somewhat difficult as there is so much informative material in every chapter touching upon so many phases of "Inhalational Therapy."

Other than the text covering "Inhalational Therapy," the central idea of the book seems to be the effort to correlate symptoms with the pathological processes, which is the ideal objective to be attained in all teaching of pathology. Under various headings covering many diseases an effort is made to explain symptoms through altered mechanisms as a result of the pathology. In noting the manner in which this is done in this book, many pathologists who conduct the popular weekly "pathological conferences" would be aided in their explanations of the "why" and "how" of various symptoms.

A great many of the most important points are brought to light in the discussion of pathologic physiology, particularly in the chapters devoted to Pneumonia, Congestive Heart Failure, Coronary Thrombosis and Coronary Sclerosis, Bronchial Asthma, Pulmonary Emphysema, Acute Altitude Sickness, Acute Anoxia, and Shock, after which discussion there is extensive discussion in inhalational therapy in each of these various processes.

The comments in the chapter "Some Considerations Concerning Research in Respiratory Function and Inhalational Therapy" are particularly pertinent.

The basis for their comment on pathologic physiology and the rationale for treatment is well substantiated by an enormous amount of experimental research. Carbon dioxide and oxygen in particular are very vital and necessary substances for bodily needs in the presence of pathologic processes and altered physiology, and the importance of the manner in which the substances are administered to the body can not be overestimated.

To anyone interested in any phase of the material presented in the various chapters, the book will be an important reference work. Careful application of the many details in therapy will do much to alter the casual order given in many hospitals to "put him in the Tent" or "take him out."

Marr Bisailon, M.D.

Editorial

As the world returns to a peace time economy, we are thinking of the physicians who are soon to be released from the military services. The Board of Regents of the College had made advance plans for the establishing of a Medical Service Bureau, as announced in this issue of the Journal, and there are a number of positions now available in sanatoria and in private practice for qualified chest specialists. Physicians interested in these positions are requested to write to the Executive Offices of the College at Chicago for detailed information.

It is with much pleasure that we acknowledge receipt of the following telegram from Dr. Antonio Navarrete, College Regent in Cuba:

"Cuban Chapter joins College in rejoicing great victory."

That the College is the leading international society of chest specialists is further evidenced by the receipt of the following applications from our eastern allies, China and Australia:

J. Ancheng Miao, Kunming, Yunnan, China.

Timothy C. H. Liang, Hwei-yang, Kwang-tung, China.

Timothy Chien Yi Sun, Kunming, Yunnan, China.

Kuang Hung Tsing, Kunming, Yunnan, China.

Charles G. Bayliss, Sydney, New South Wales, Australia.

Campbell Young Bland, Waterfall, New South Wales, Australia.

We are looking ahead to the rapid demobilization of physicians whose services are no longer needed by the army and navy. It is our desire that they be returned to their homes and families with the least possible delay.

—C. M. H.